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WILDLIFE REVIEW

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UNITED STATES DEPARTMENT OF THE INTERIOR

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June 1961

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WILDLIFE REVIEW

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by the Fish and Wildlife Service
United States Department of the Interior

June 1961 Patuxent Wildlife Research Center, Laurel, Maryland No. 102

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CONTENTS

General conservation
- Natural resources & climate 2
- Soils 2
- Conservation education 2
- Bibliographies, directories, biography, history 3

Plants
- General, ecology, techniques ... 3
- Floras, communities, taxonomy .. 5

Wildlife
- New game series 7
- Biotas, ecology, natural history 7
- Natural areas & refuges 9
- Nature protection & rare & extinct species 9
- Effects of chemicals, weather, cars, etc. 9
- Parasites & diseases 10
- Populations & fluctuations 12
- Biometrics 12
- Techniques 12
- Management & research, general 14
- Hunting areas & problems 15
- Food habits & techniques 15
- Predation, crop damage, control 15
- Reports of organizations & reports of harvests 16
- Management & ecology of habitats & animals
  - Wetlands & wildlife 18
  - Farmland & wildlife 18
  - Rangeland & wildlife 18
  - Forestland
    - Forestry & ecology 19
    - Management for & damage by wildlife 20
  - Stripped land & misc. habitats 20
  - Control of vegetation with herbicides, etc. 20

Mammals
- Faunas & manuals 21
- Populations, home ranges, communities 22
- Parasites & diseases 23
- Shrews, moles, bats 26
- Rabbits & pikas 27
- Rodents
  - Miscellaneous 31
  - Rattus & Mus 35
  - Sciurids 36
  - Beaver 36
  - Muskrat & nutria 36
- Fur animals, general 37
- Carnivores
  - Bears 37
  - Raccoon, ringtail, coati 37
  - Mustelids 38
  - Dogs, wolves, foxes 39
  - Cats 39
- Big game
  - General 40
  - Deer (Odocoileus) 42
- Marine 44
- Other groups 45

Birds
- General 46
- Morphology, physiology, behavior, migration 46
- Manuals, faunas, communities ... 49
- Populations & fluctuations 50
- Economics, control, mortality .. 51
- Parasites & diseases 53
- Game birds--general 55
- Quail 55
- Pheasants 56
- Grouse, partridge, etc. 57
- Turkey 59
- Doves & pigeons 59
- Waterfowl 59
- Cranes, rails, shorebirds 62
- Other birds 62

Reptiles & amphibians 63
Fishes 65
Invertebrates 65
Author index 66

Except as indicated, abstracts are by Kenneth J. Chiavetta, editor.

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[illegible] cents (single copy). Subscription price $1.25 a year; 25 cents additional for foreign mailing.

NATURAL RESOURCES & CLIMATE

Cooper, Charles F. YIELD AND VALUE OF WILD-LAND RESOURCES OF THE SALT RIVER WATER SHED, ARIZONA. REPORT OF ARIZONA WATER SHED PROGRAM, REPORT II. M.S. thesis, Univ. Ariz. 1956. [From list by Kinsinger & Eckert, J. Range Mgmt. 14(1), 1961.] WR 102: 2

Elizalde, R. M. THE VANISHING CONTINENT. Am. Forests 66(11): 16-19, illus. Nov. 1960. WR 102: 2

"Conservationists have branded Latin America 'the vanishing Continent' because of the serious misuse of land in all of the countries that comprise it." After a general account of the conservation status in Latin America, Elizalde surveys the situation in Chile. Seventy-two per cent of the land is eroded, of which 17% is practically lost--about 15 million and 2 million acres respectively. Sand dunes cover approximately 1.5 million acres. Forestland has been reduced from 60% to 25% of Chile's land area and foresters are predicting that if exploitation continues at this rate the forests will disappear within 10-20 years.

Kozicky, Edward L. (Olin Matheson Chem. Corp., East Alton, Ill.) NATURAL RESOURCES MANAGEMENT IN THE SIXTIES. N. Dak. Outdoors 23(9): 8, 14. Mar. 1961. WR 102: 2

A review of conservation trends with the conclusion that the large majority of our conservation "problems go back to an expanding human population."

Michigan. FORTY YEARS OF CONSERVATION / A SPECIAL 1961 MICHIGAN CONSERVATION BONUS SUPPLEMENT. Mich. Conserv. 30(1): [17-32], illus. Jan.-Feb. 1961. WR 102: 2

A special unpaged center supplement which summarizes the highlights of conservation in Mich. since 1921.

SOILS

Ableiter, J. Kenneth, and others. SOIL SURVEY OF BAYFIELD COUNTY, WISCONSIN. US Soil Conserv. Serv., Ser. 1939, no. 30. i + 77 p., 16 figs. + colored, single-fold maps based on topographic sheets and bound in. Apr. 1961. Sold by Supt. Documents. WR 102: 2

Alfred, S. D., and others. SOIL SURVEY OF FAYETTE AND UNION COUNTIES, INDIANA. US Soil Conserv. Serv., Ser. 1952, no. 8. i + 91 p., 8 figs. + single-fold maps based on aerial photos and bound in. Sept. 1960. Sold by Supt. Documents. WR 102: 2

Jury, W. M., and others. SOIL SURVEY OF SHELBY COUNTY, IOWA. US Soil Conserv. Serv., Ser. 1956, no. 16. i + 61 p., 8 figs. + single-fold maps based on aerial photos and bound in. Feb. 1961. Sold by Supt. Documents. WR 102: 2

Larance, Fred C., and others. SOIL SURVEY OF BRADLEY COUNTY, ARKANSAS. US Soil Conserv. Serv., Ser. 1958, no. 1. i + 66 p., 12 figs. + folded maps based on aerial photos and bound in. Apr. 1961. Sold by Supt. Documents. WR 102: 2

Richlen, Ellsworth M. SOIL SURVEY OF HUMBOLDT COUNTY, IOWA. US Soil Conserv. Serv., Ser. 1956, no. 18. i + 71 p., 7 figs. + folded maps based on aerial photos. Jan. 1961. Sold by Supt. Documents. WR 102: 2

CONSERVATION EDUCATION

Marckworth, Gordon D. (Univ. Wash., Seattle.) STATISTICS FROM SCHOOLS OF FORESTRY FOR 1960: DEGREES GRANTED AND ENROLLMENTS. J. Forestry 59(4): 273-279. Apr. 1961. WR 102: 2

Includes tabulations of statistics on degrees granted and enrollments at 43 forestry schools for 1960. For that year, there were granted: 1532 undergraduate degrees, 305 master degrees, and 40 doctor degrees. Eleven percent of the bachelor degrees, 21% of the master degrees, and 20% of the doctor degrees were in wildlife management. References for previous annual statistics of this nature (since 1934) are listed.

BIBLIOGRAPHIES, DIRECTORIES, BIOGRAPHY, HISTORY

Adams, Harriet Dyer, and Thane S. Robinson. (149 Manning Blvd., Albany, N. Y.) AN ECOLOGICAL BIBLIOGRAPHY OF CHARLES CHRISTOPHER ADAMS. Occas. Papers C. C. Adams Center Ecol. Studies, Western Mich. Univ., no. 2. 6 p. 16 Feb. 1961. WR 102: 3

The published writings of C. C. Adams, 1873-1955, comprise more than 200 titles. The publications listed here, approximately one-third of the total, are those in the field of ecology. A complete bibliography may be obtained upon request from the Director, C. C. Adams Center for Ecological Studies, Western Michigan Univ., Kalamazoo, Mich.

Brown, Hilda J., compiler. PUBLICATIONS OF THE SOUTHEASTERN FOREST EXPERIMENT STATION / 1921-1958. SE Forest Expt. Sta., Sta. Paper no. 117. 115 p. Dec. 1960. WR 102: 3

"This booklet contains an alphabetical list of some 1,700 research reports put out by staff members of this station and its cooperators."

Darrow, Robert A. JOURNAL OF RANGE MANAGEMENT 10 YEAR INDEX (VOLUMES 1-10, 1948-1957). Am. Soc. Range Mgmt. 46 p. 1959. [Available at $1.00 from the Executive Secretary, Am. Soc. Range Mgmt., P. O. Box 5041, Portland 13, Oregon.] WR 103: 3

This "is primarily an author-title and subject-matter index.... An attempt has been made to cross-reference all subject matter included in the titles of articles, notes, abstracts, and books reviewed.... Common and scientific names of plants and animals appearing in the title are listed under subject matter classes and in classified groups such as Forage crops, Grasses, Plants, and Wildlife."

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Ahlgren, I. F., and C. E. Ahlgren. ECOLOGICAL EFFECTS OF FOREST FIRES. Botan. Rev. 26(4): 483-533. Oct./Dec. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 3

Alexander, Taylor R. (Univ. Miami, Fla.) ECOLOGY OF THE POMPANO BEACH HAMMOCK. Quart. J. Fla. Acad. Sci. 21(4): 299-304. 1958. [From Biol. Abstr. 36(4), 1961.] WR 102: 3

Buchanan, Hayle. THE PLANT ECOLOGY OF BRYCE CANYON NATIONAL PARK. Ph.D. thesis, Univ. Utah. 147 p. 1960. [From Dissertation Abstr. 21(9), 1961.] WR 102: 3

Recommendations: 1. Application of silvicultural practices to minimize damage from insects and disease. 2. More discrimination in the use of chemicals in the control of insects and tree diseases. 3. Immediate reduction of over-population of mule deer. 4. Effective control of porcupines. 5. Complete elimination of grazing within the park.

Cook, C. Wayne, and Thadis W. Box. (Utah State Univ., Logan.) A COMPARISON OF THE LOOP AND POINT METHODS OF ANALYZING VEGETATION. J. Range Mgmt. 14(1): 22-27, 1 fig. Jan. 1961. WR 102: 3

During late summer 1959, data were collected by the line point, line loop, and point frame transects on a mountain-brush type in n. Utah to determine the efficiency of each method in estimating canopy cover, surface ground cover, and species composition. The line point and the point frame methods gave a significantly higher canopy cover than the line loop method, but there was no significant difference between methods for surface ground cover values. The line loop method overestimated the percent canopy cover for shrubby species and underestimated it for grasses compared with the other methods. All methods appeared to estimate the percent canopy cover for forbs about the same.--From [illegible].

Cooper, Arthur W. (N. C. State Coll., Raleigh.) RELATIONSHIPS BETWEEN PLANT LIFE-FORMS AND MICROCLIMATE IN SOUTHEASTERN MICHIGAN. Ecol. Monographs 31(1): 31-59, 17 figs. Jan. 1961. WR 102: 3

Crawford, H. S. (SE Forest Expt. Sta., New Orleans, La.) IDENTIFYING GREENBRIER GROWTH. J. Range Mgmt. 14(1): 42, 1 fig. Jan. 1961. WR 102: 4
In a study in the Ark. Ozarks, appearance of persistent leaf bases was the best of several criteria for distinguishing the current season's growth of Smilax bona-nox L.

Dealy, J. Edward. THE DENSIOMETER FOR MEASUREMENT OF CROWN INTERCEPT ABOVE A LINE TRANSECT. Pacific NW Forest & Range Expt. Sta., Res. Note no. 199. 5 p., 1 fig. Dec. 1960. WR 102: 4

Frederick, Ralph H. (U. S. Weather Bur., Washington, D. C.) A STUDY OF THE EFFECT OF TREE LEAVES ON WIND MOVEMENT. Monthly Weather Rev. 89(2): 39-44, 4 figs. Feb. 1961. WR 102: 4
Using wind data observed at the Nashville Community Air Pollution Network, a study is made of wind flow near deciduous trees during periods of foliation and defoliation. This difference in wind flow is contrasted with wind patterns in treeless or nearly treeless environments. It is concluded that in an area of numerous but well-spaced mature deciduous trees, the wind is about 25-40% greater during periods of defoliation.--From auth. abstr.

Furrer, E. BERICHT ÜBER DAS INTERNATIONALE SYMPOSION FÜR VEGETATIONS-KARTIERUNG IN STOLZENAU/WESER VOM 23-26 MÄRZ 1959. [REPORT ON THE INTERNATIONAL SYMPOSIUM ON VEGETATION MAPPING IN STOLZENAU/WESER FROM 23-26 MARCH 1959.] Vegetatio 9(3): 193-196. 1960. [From Biol. Abstr. 36(7), 1961.] WR 102: 4
[In German.] Vegetation mapping is important in forestry, agriculture, hydrology, right-of-way maintenance, and nature conservation. The Symposium included 116 representatives from 16 countries. Thirty-seven papers were presented including 12 on principles and methods of vegetation mapping, 11 on results, and 14 giving applications of results. The proceedings will be printed by Englemann.--J. Major.

Hoover, Kenneth B. HAWTHORN STUDIES IN PENNSYLVANIA IN RELATION TO WILDLIFE VALUES. Pa. Coop. Wildl. Res. Unit, Spec. Rept. no. 5. iii + 68 p. Jan. 1961. WR 102: 4
Studies in central Pa. indicate that although hawthorns tolerate a wide range of habitats, they prefer a moist to wet one. They are least abundant in the Piedmont where the chief limiting factor is a rust. Crataegus pruinosa, C. crus-galli, C. macrosperma, and C. pedicellata are recommended for propagation as game foods. C. punctata, C. Margaretta, C. calpodendron, and C. succulenta should be replaced by more productive species when thinning operations are deemed necessary. In order to maintain a productive hawthorn stand on lands where wildlife is the major use, it may be necessary to thin dense stands and cut-out invading tree species since hawthorns are not tolerant to shading and crowding.--From abstr.

Klawitter, Ralph A., and Jack Stubs. (SE Forest Expt. Sta., Asheville, N. C.) A RELIABLE OAK SEED TRAP. J. Forestry 59(4): 291-292, 4 figs. Apr. 1961. WR 102: 4
The Easley-Chaiken pine seed trap was modified by cutting away portions from the ends of each panel and reassembling as a 3-sided seed trap.

Koranda, John James. THE PLANT ECOLOGY OF THE FRANKLIN BLUFFS AREA, ALASKA. Ph.D. thesis, Univ. Tenn. 261 p. 1960. [From Dissertation Abstr. 21(7), 1961.] WR 102: 4
The discussion of the plant ecology of this arctic area emphasizes the close relationship between topography, vegetation types, and certain ecological factors such as exposure, snow cover, and substratum conditions.

Kuusela, Kullervo, and Kalervo Setala. KOE METSIKKOARVIOINTIEN SUORITTAMISEKSI HELIKOPTERISTA. [A TEST FOR ESTIMATING TREE STANDS FROM A HELICOPTER.] Silva Fennica 96: 5-24, illus., maps. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 5

[In Finnish] with English summary. According to the test results, aerial estimates made from a helicopter are valuable in large roadless areas and for rapid inventories. With properly trained and experienced personnel, aerial estimates can be of the same accuracy as those carried out on the ground in the northern conifer forests.--From auth. abstr.

Lippoczy, B. MILYEN HATÁSSAL VAN A CSAPADÉK MENNYISÉGE A MAKKTERMÉSRE? [INFLUENCE OF THE AMOUNT OF RAINFALL ON OAK MAST PRODUCTION.] Erdö 8(4): 149-150 + summaries in suppl. 1959. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 21 Feb. 1961.] WR 102: 5

In Hungarian with Russian and German summaries. Examination established a definite connection between mast production and amount of rain in the mast year. Irrigation also stimulated mast production.--Courtesy/ Frank M. Johnson.

Strawn, Kirk. (Univ. Ark., Fayetteville.) FACTORS INFLUENCING THE ZONATION OF SUBMERGED MONOCOTYLEDONS AT CEDAR KEY, FLORIDA. J. Wildl. Mgmt. 25(2): 178-189, 8 figs. Apr. 1961. WR 102: 5

The zonation of Diplanthera wrightii, widgeon grass (Ruppia maritima), Halophila engelmanni, turtle grass (Thalassia testudinum), and manatee grass (Syringodium filiforme) [all waterfowl foodplants] in shallow inshore water is determined by tidal level and is modified by tide pools and by water draining across the grass flats during low tide. Dredging and filling based on a thorough knowledge of the ecology of the seagrasses can be used to restore grass flats to areas where they have been destroyed and to enlarge existing grass flats.--From summ.

White, D. J. B. (Univ. Coll., London.) SOME OBSERVATIONS ON THE VEGETATION OF BLAKENEY POINT, NORFOLK, FOLLOWING THE DISAPPEARANCE OF THE RABBITS IN 1954. J. Ecol. 49(1): 113-118. Feb. 1961. WR 102: 5

Notable increase in Festuca rubra. Hypnum cupressiforme and Cladonia spp. both increased in the first 2 years but were tending to decrease by 1959.

PLANTS--FLORAS, COMMUNITIES, TAXONOMY

Cooperrider, Tom S. (Kent State Univ., Ohio.) THE FLORA OF THREE STATE PARKS IN EASTERN IOWA. Proc. Iowa Acad. Sci. 67: 145-161, illus. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 5

A list is presented of the vascular plant species, both native and naturalized, growing in Wapsipinicon, Maquoketa Caves and Bellevue State Parks, Iowa. The list is based on collections and observations made from 1955 to 1959.--Author.

Coupland, Robert T. (Univ. Saskatchewan, Saskatoon, Saskatchewan, Canada.) A RECONSIDERATION OF GRASSLAND CLASSIFICATION IN THE NORTHERN GREAT PLAINS OF NORTH AMERICA. J. Ecol. 49(1): 135-167, 3 figs. + 2 pls. Feb. 1961. WR 102: 5

One climax community of Fescue Prairie and 5 climax and edaphic climax communities of Mixed Prairie are characterized on the basis of studies in 96 relatively undisturbed sites over an 18-year period in the glaciated Canadian Great Plains.--From summ.

David, Robert Austin. PLANT COMMUNITIES OF SOUTHEASTERN IOWA. Iowa Acad. Sci. Proc. 67: 162-173. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 5

Forester, J. E. TREE-SORT, THE POCKET 'TREE-COMPUTER.' Tree silhouettes by Dwayne Nuzum. The Tree-Sort Co., Boulder, Colo. [1961.] WR 102: 6

A set of 156 punched cards for the identification of 260 native and exotic trees of the United States and Canada. Each card 3" x 6-5/8". Over 900 illustrations, many from Forest Service publications. Sorting needle and instructions included. In clear plastic box. Side 1 of each card: index to key characteristics based on 41 botanical features and eastern vs western ranges. Each key choice illustrated. Side 2: species descriptions, with various illustrations of foliage, fruit, twig, bark, silhouette, range. Hawthorns (Crataegus) and willows (Salix) to genus only. Other cards with one, two, or three species. Closely related species, such as eastern red oaks and western 5-needled pines, separated by reference to descriptions and illustrations. Illustrations and glossary permit use by non-specialists.--E. H. Ketchledge.

Hayes, Doris W., and George A. Garrison. KEY TO IMPORTANT WOODY PLANTS OF EASTERN OREGON AND WASHINGTON. USDA, Agr. Handbook no. 148. i + 227 p., illus. Dec. 1960. Available from Supt. Documents at $2.00. WR 102: 6

The bulk of this publication consists of three keys: deciduous plants--spring and summer, deciduous plants--fall and winter, and evergreen plants. These have been "prepared in laymen's language" and are based on twig or leaf characters. The text is profusely illustrated with diagnostic drawings of plants and portions of plants, and photographs. The 180 species selected are those considered of importance to big-game biologists, forest rangers, hunters, and recreationists. Notes on forage value are appended.

Jones, Fred B., Chester M. Rowell, Jr., and Marshall C. Johnston. FLOWERING PLANTS AND FERNS OF THE TEXAS COASTAL BEND COUNTIES. Welder Wildl. Foundation, Welder Ser. B-1. [vi + 165 p.] Jan. 1961. Available at $2.35 from Welder Wildl. Foundation, P. O. Box 1396, Sinton, Texas. WR 102: 6

A list with notes on habit, flower color, habitat, and season of bloom of the vascular plants of 9 Texas Coastal Bend Counties.

Moss, E. H. (Univ. Alberta, Edmonton.) FLORA OF ALBERTA. Univ. Toronto Press. 546 p. 1959. $10. WR 102: 6

Muirhead, Desmond. PALMS. Dale Stuart King (Globe, Ariz.). 144 p., illus. 1961. $1.95 paper, $3.20 cloth. WR 102: 6

A well-illustrated introduction to palms and their uses in landscaping. Although this large group has a wide variety of uses for man, it is of minor importance to wildlife. [In Florida, however, it has been indicated "that the size of the acorn and palmetto mast crop has an influence on the weight of deer in the 'Scrub.'" Raccoons also use palmetto-mast.] The book has most of the attributes of a good "introduction to" book: simple but adequate drawings, excellent photographs, authoritative and readable text, and a bibliography. All it lacks is an index to make it a model for this type of book. In addition to accounts of the various palms, there are sections on hardiness, planting, pruning, propagation, diseases, palm-like plants, and landscaping.

Steward, Albert N., La Rea J. Dennis, and Helen M. Gilkey. (Oregon State Coll., Corvallis.) AQUATIC PLANTS OF THE PACIFIC NORTHWEST, WITH VEGETATIVE KEYS. Oreg. State Coll., Studies in Botany no. 11. 184 p., illus. 1960. $2.50. WR 102: 6

Mosses, liverworts, ferns, and flowering plants of Oreg., Wash., British Columbia, and Alaska that live in water or that some time in their life require saturated soil. There are keys to and descriptions of all species, and there are simple drawings of nearly 200 of them.--Neil Hotchkiss.

PLANTS--FLORAS, COMMUNITIES, TAXONOMY--Continued

Westerfeld, Walter F. (Pa. State Univ., University Park.) AN ANNOTATED LIST OF VASCULAR PLANTS OF CENTRE AND HUNTINGTON COUNTIES, PENNSYLVANIA. Castanea 26(1): 1-80, 2 figs. Mar. 1961. WR 102: 7

This list is a portion of a report on the flora of these Pa. counties. "The part not included contains short discussions of the history, climate, physiography, geology, soils, ecology and special areas of botanical interest. It has been published as Bulletin No. 647 (Westerfeld, 1959) by the Agricultural Experiment Station of The Pennsylvania University.... The list of 1713 taxa culminates over 100 years of recorded field work in this area."

Wherry, Edgar T. THE FERN GUIDE / NORTHEASTERN AND MIDLAND UNITED STATES AND ADJACENT CANADA. Doubleday & Co., Inc. (Garden City, N. Y.). 318 p., illus. 1961. $3.95. WR 102: 7

Dr. Wherry has attempted in this guide "to straighten out discrepencies between data" in the recent fern literature. His coverage for this region is much greater than that of his predecessors since he recognizes and describes 135 forms. The species accounts are devoted to a description of the fern and its range, habitat, garden culture, and nomenclature--packed into one page of text. On the opposite page are diagnostic drawings which complement the description and aid in the identification of the fern. Technical botanical terms are used since they "are in general simpler and more precise than colloquial expressions." A glossary to these terms is included--making this guide useful to the amateur as well as the professional botanist. Although this and other fern books have sections devoted to growing ferns in the garden, this guide is unique in having culture methods for each species included in the species account. Other sections which make this guide useful in the library as well as the field are: Fern cytology, Fern spores, Exploring for ferns, Recent fern literature, Keys, Authors of fern names, and indices to technical and common names of the ferns.

WILDLIFE--NEW GAME SERIES

NEW MEXICO WILDLIFE. Published bimonthly by the New Mexico Dept. Game and Fish (Santa Fe, N. Mex.) at $1.00 per year. Vol. 6, no. 1, 20 p., illus. Jan.-Feb. 1961. WR 102: 7

With this issue New Mexico Wildlife joins the family of state conservation publications printed in magazine format. The new journal is 8-1/2 x 11 inches in size, well-illustrated, and is printed on an excellent quality paper. Previously this series appeared as a monthly tabloid-sized newsprint.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Averin, U. V. [THE CHIEF CHANGES IN THE MAMMALIAN AND BIRD FAUNA IN MOLDAVIA IN THE XVII-XX CENTURIES.] Bull. Moscow Obshch. Ispyt. Prirody, Biol. 65(2): 5-12. Mar.-Apr. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 7

In Russian with English summary.

Chew, Robert M. (Univ. S. Calif., Los Angeles.) WATER METABOLISM OF DESERT-INHABITING VERTEBRATES. Biol. Rev. 36(1): 1-31, 2 figs. Feb. 1961. WR 102: 7

A review paper.

Clarke, Robert F., John Breukelman, and Ted F. Andrews. AN ANNOTATED CHECK LIST OF THE VERTEBRATES OF LYON COUNTY, KANSAS. Trans. Kans. Acad. Sci. 61 (2): 165-194. 1958. [From Biol. Abstr. 36(2), 1961.] WR 102: 7

Curry-Lindahl, Kai. (Nordiska Museet, Stockholm, Sweden.) ECOLOGICAL STUDIES ON MAMMALS, BIRDS, REPTILES AND AMPHIBIANS IN THE EASTERN BELGIAN CONGO. I. Ann. Musée Roy. Congo Belge, Sci. Zool. 42. 79 p. 1956. WR 102: 8

Contains introductory remarks, general information of the area investigated, and systemic accounts of mammals, reptiles, and amphibians collected and observed outside the national parks during the Lund University Congo Expedition 1951-2.

Curry-Lindahl, Kai. (Nordiska Museet, Stockholm, Sweden.) ECOLOGICAL STUDIES ON MAMMALS, BIRDS, REPTILES AND AMPHIBIANS IN THE EASTERN BELGIAN CONGO. PART II. (REPORT NO. 1 OF THE SWEDISH CONGO EXPEDITIONS 1951-1952 AND 1958-1959). Ann. Musee Roy. Congo Belge, Sci. Zool. 87. 170 p. + 39 figs. on 20 pls., and 2 maps. 1960. WR 102: 8

Data on distribution, biology, and ecology of 253 forms of non-passerine birds observed in eastern Belgian Congo and in Ruanda-Urundi. In the forthcoming third volume passerine birds will be treated, followed by a general account including ecological and zoogeographical discussions. See above for listing of Part I.

Hay, John. NATURE'S YEAR / THE SEASONS OF CAPE COD. Doubleday & Co., Inc. (Garden City, N. Y.). 199 p., illus. 1961. $4.50. WR 102: 8

After reading this collection of nature essays one is left with two general impressions: (1) that John Hay indeed writes "prose that has the impact of poetry," and (2) that on Cape Cod, man's dominance over nature is an illusion. These essays span an entire year beginning with July ("the time embodying the full, crowded height of life"), continuing through January (the period of "dreariness, old age and decay"), and completing the cycle in June. In this period a procession and succession of animals and plants are noted by the author and his encounters with them are skillfully told. The interplay between the land, sea, wildlife, and weather is described. And though there is a human population on the Cape which fluctuates between 80,000 and a quarter million or more, one feels that in this struggle between the elements man has a minor role. In one essay entitled "Death, man made" there is a moving account of the great waterfowl losses resulting from oil pollution. This is one instance in which man asserts his dominance.

Rabor, D. S. WILDLIFE IN THE HUMID TROPICS PICTURE. Pacific Sci. Congr. Proc. 9(20): 95-104. 1957 [1958.] [From Bibliog. Agr. 25(1), 1960.] WR 102: 8

Ray, Carleton. (N. Y. Aquarium, Brooklyn 24, N. Y.) THE APPLICATION OF BERGMANN'S AND ALLEN'S RULES TO THE POIKILOTHERMS. J. Morphol. (Philadelphia) 106(1): 85-108. Jan. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 8

Royama, Tomoo. THE THEORY AND PRACTICE OF LINE TRANSECTS IN ANIMAL ECOLOGY BY MEANS OF VISUAL AND AUDITORY RECOGNITION. Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 2(14): 1-17. 1960. [From Biol. Abstr. 36(2), 1961.] WR 102: 8

Problems of line transects in animal ecology are discussed. Several methods of using line transects were compared and criticised both from theoretical and practical points of view. Methods of line transects were classified from a practical standpoint according to kinds of animals to be sampled. Precautions to be taken in the application of each method are suggested.--From auth. abstr.

Terres, John K. THE WONDERS I SEE. J. P. Lippincott Co. (Philadelphia & New York). 256 p., illus. 1960. $5.00. WR 102: 8

The more than eighty selections from eight years of John K. Terres' journals provide varied and informative reading which should interest the casual reader as well as the avowed naturalist. These are grouped by months and together they make an interesting "year." The lucid style is generally reminiscent of several "classic" nature journals and almanacs--but more particularly to those of Peattie and Fabre. Although the author is known primarily as an ornithologist (Editor of Audubon Magazine, 1949-1960), his selections on the habits of insects, spiders, mammals, and other creatures of nature outnumber those on birds. They vary from short (often one-page) articles which vividly record unusual wildlife events as seen by a keen observer, to longer articles dealing with such subjects as the history of the cattle egret in America (p. 93-99) or even biographical sketches such as that of W. L. McAtee (p. 214-222). A selected list of useful references and an index are appended.

Tollén, Edgar. DÄGGDJUR OCH FÅGLAR PÅ NORDOSTLANDET, SPETSBERGEN. [ANIMALS AND BIRDS OF NORDAUSTLANDET, SVALBARD.] Fauna och Flora (Stockholm) 1960 (3-4): 79-96, illus. 1960. [From Polar Record 10(67), 1961.] WR 102: 9
In Swedish. Observations for 1957-8.

Transvaal. FAUNA & FLORA NO. 11. Govt. Printer (Pretoria). 86 p., illus. 1960. Available from Director Nature Conserv., P. O. Box 383, Pretoria. No price stated. WR 102: 9
Entire issue devoted to nine articles on the Loskop Dam Nature Reserve dealing with the recreation facilities, the origin and building of the dam, and the natural resources of the reserve (geology, climate and vegetation, fishes, reptiles and amphibians, birds, mammals, and archaeology).

Zalesskiy, Yu. M. ULTRASOUND IN THE LIFE OF ANIMALS. JPRS no. 7350. 12 p. 29 Dec. 1960. Transl. from Priroda 49(8): 91-93, 1960. [From Tech. Transl. 5(7), 1961.] May be ordered from Office of Tech. Serv., Dept. Commerce, Washington 25, D. C. at 50¢. WR 102: 9
Popular exposition, with references to bats, crickets, birds, etc.

WILDLIFE--NATURAL AREAS & REFUGES

Goodwin, Richard H., and others. (Conn. Arboretum, New London.) CONNECTICUT'S COASTAL MARSHES / A VANISHING RESOURCE. Conn. Arboretum, Bull. no. 12. 36 p., illus. Feb. 1961. 40¢. WR 102: 9
Forty-five percent of the 36.5 sq miles of Connecticut's tidal marshes of 1914 had been destroyed by 1959. "The purpose of this bulletin is to bring to public attention the great urgency of protecting our remaining coastal marshes." Articles included: Tidal marshes / their use in scientific research, William A. Niering; Salt marshes as a source of food, John S. Rankin, Jr.; Salt marshes and wildlife, Philip Barske; Geological aspects of Connecticut's coastal marshes, John E. Sanders and Charles W. Ellis; The death of a marsh: the story of Sherwood Island Marsh and its political consequences, Louis Darling; Valuable vistas: a way to protect them, Richard H. Pough; The future: a call to action, Richard H. Goodwin.

Kindleberger, Betty. ENGLISH AND AMERICAN PARK SYSTEMS COMPARED BY DARBY, WIRTH, AND GODDARD. Am. Forests 67(3): 4, 54-57, 1 fig. Mar. 1961. WR 102: 9

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

Petrides, George A., and Wendell G. Swank. (Mich. State Univ., East Lansing.) THE STATUS OF WILDLIFE AND WILDERNESS AREAS IN EAST AFRICA. Oryx 5(4-5):295-306. May 1960. [From J. Mammal. 42(1), 1961.] WR 102: 9

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Bischoff, Arthur, and Eldridge Hunt. MODERN AGE PROBLEM / CONSERVATIONISTS CONCERNED ABOUT PESTICIDES. Outdoor Calif. 22(3): 4-5, 9, illus. Mar. 1961. WR 102: 9
Popular review paper which deals with the effects (direct and indirect) of pesticides, faunal displacement, and the wildlife-pesticides activities in Calif.

Bossenmaier, Eugene F. (Manitoba Game Branch, Winnipeg, Canada.) THE EFFECTS OF INSECTICIDES UPON WILDLIFE. Proc. Entomol. Soc. Manitoba 15: 33-40. 1959. [From Biol. Abstr. 36(4), 1961.] WR 102: 9

Hodson, N. L. A SURVEY OF VERTEBRATE ROAD MORTALITY / 1959. Bird Study 7 (4): 224-231, 2 figs. Dec. 1960. WR 102: 9
Regular counts were made in 1959 on a 2-mile section of rural, arterial roadway of the number of vertebrates killed. Normal traffic averaged 101 vehicles per hour, 180 on normal weekends, and 244 on holidays. "During the year, 288 birds of 26 species and 295 other vertebrates of 16 species were killed." The effects of habitat, weather, and other factors are discussed.--Mary F. Myers.

Reyes, H. INTOXICACIÓN HUMANA POR INSECTICIDAS. [POISONING OF HUMANS BY INSECTICIDES.] Bol. Chileno Parasitol. 15(3): 57-59. 1960. [From Biol. Abstr. 36(7), 1961.] WR 102: 10

[In Spanish.] A summary of the epidemiological, the pathogenic and the clinical symptoms associated with poisoning due to insecticides. Methods of treatment and of prevention of the increasing number of cases of human poisoning due to the widespread use of chlorinated and organophosphorus compounds as insecticides are presented together with a warning of the dangers involved in the often indiscriminate use of such drugs in attempts to control insect pests.--A. C. Walton.

Schütt, C. CHEMICAL DEBARKING OF TREES: A REVIEW OF LITERATURE. Pap. ja Puu 42(11): 579-598. 1960. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 21 Feb. 1961.] WR 102: 10

In English with Finnish summary. Subjects covered include: natural adhesion of bark to wood, in relation to chemical barking; time of treatment, methods, chemicals, and barking of various tree species; effects of chemical barking on the tree, on wood, on pulping and pulp, and on wildlife; economics; and patents. 134 references.--Courtesy/ Frank M. Johnson.

WILDLIFE--PARASITES & DISEASES

Babero, B. B., J. R. Shepperson, and T. C. Sicay. (Emergency Sci. Inst., Lagos, Nigeria.) ADDITIONAL RECORDS OF GNATHOSTOMES IN NORTH AMERICAN HOSTS. Revista Biol. Tropical, Univ. Costa Rica 7(1): 63-66. 1959. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 10

With Spanish summary. Gnathosoma was found in 22 raccoons, 14 opossums, 2 skunks, and one snake in Georgia.

Blaškovič, Dionýz. (Czechoslovak Acad. Sci., Bratislava.) TICK-BORNE ENCEPHALITIS IN EUROPE: SOME ASPECTS OF EPIDEMIOLOGY AND CONTROL. Trans. N. Y. Acad. Sci., Ser. II, 23(3): 215-232, 4 figs. Jan. 1961. WR 102: 10

A review paper on the ecology of tick-borne encephalitis virus, the characteristics of natural foci of infection, and methods of control. Vectors include deer, fox, hare, rodents, insectivorous animals, birds, and reptiles.

Krotov, A. I. [ZOOGEOGRAPHICAL ANALYSIS AND HYPOTHESES ON THE ORIGIN OF THE HELMINTH FAUNA OF VERTEBRATES ON SAKHALIN ISLAND.] Zool. Zhur. 39(4): 481-489. 1960. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 10

In Russian with English summary. An analysis of "the helminth fauna of 4,000 vertebrates in relation to their historical and ecological properties has shown that of the 303 helminth species found, 105 are distributed over the whole Palaearctic and even Holarctic, 40 are amphiboreal, 16 are endemic species of the island, another 16 are east Asiatic..., four are Indo-Malayan and two are northern."

Parker, Dale D., and J. Franklin Howell. (Univ. Utah, Ecol. Res., Dugway.) HOST-FLEA RELATIONSHIPS IN THE GREAT SALT LAKE DESERT. J. Parasitol. 45(6): 597-604. Dec. 1959. WR 102: 10

Mammal and bird fleas of the Great Salt Lake Desert are listed according to host. Fleas were collected from 25 of 49 spp. of mammals and 3 of 247 forms of birds examined. Fleas were collected during all months through a period of 8 years.--From summ.

Parker, R. L., V. J. Cabasso, D. J. Dean, and E. L. Cheatum. (Wis. State Game Farm, Poynette.) SEROLOGIC EVIDENCE OF CERTAIN VIRUS INFECTIONS IN WILD ANIMALS. J. Am. Vet. Med. Assoc. 138(8): 437-440. 15 Apr. 1961. WR 102: 10

"Serologic evidence of infection with canine distemper and infectious hepatitis was observed in foxes and raccoons but not in opossums. In foxes, these viruses are more likely to occur in areas with high fox population indexes."--From conclusions.

Schnurrenberger, Paul R., and Jack H. Russell. (Ohio Dept. Health, Columbus.) A RABIES CONTROL PROGRAM IN OHIO. Public Health Repts. 76(4): 281-286, 4 figs. Apr. 1961. WR 102: 11

A drastic reduction of canine rabies cases was noted in Ohio following an organized control program in 3 Ohio counties. For Ohio, the species distribution of rabies has been altered and the major emphasis in control is being shifted from the canine to the wildlife population.

Skrjabin, K. I., N. P. Shikhobalova, and R. S. Shul'ts (Schulz). ESSENTIALS OF NEMATODOLOGY. VOLUME III. TRICHOSTRONGYLIDS OF ANIMALS AND MAN. [1954.] Acad. Sci. USSR (Moscow). 704 p., 386 figs. 1960. Published for the Natl. Science Foundation and the Dept. Agriculture, U.S.A. by the Israel Program for Scientific Translations. [Available from the Office of Technical Services, U. S. Dept. Commerce, Washington 25, D. C. Price $7.00.] WR 102: 11

Translated from the 684 p. Russian work published in 1954. This is the first of three volumes on helminthology (which were selected by the USDA for translation) to be translated and published. Superficially, it appears to be very well done. All the original illustrations have been reproduced, and, although somewhat smaller than in the original, they are reasonably clear and usable. All Russian references have been translated into English, but the non-Russian citations have been merely reproduced in the original language. This is the only book available that has compiled all descriptions and figures of all species of the family Trichostrongylidae known to the authors up to 1954. Parasitologists interested in the identification and classification of parasitic nematodes of this important group (which contains many species causing important diseases of man and domestic and wild animals) will find it useful.--[From review by K. C. Kates in J. Parasitol. 47(2), 1961.]

Styczyńska, E. ACANTHOCEPHALA OF THE BIOCENOSIS OF DRUZNO LAKE. (PARASITOFAUNA OF THE BIOCENOSIS OF DRUZNO LAKE, PART VI.) Acta Parasitol. Polonica (Warsaw) 6(6): 195-221, 1 fig. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 11

In English with Polish summary. Twenty-one spp. of fish, 3 spp. of reptiles and 40 spp. of water birds were examined. Species of Acanthocephala were differentiated into dominant, rarely encountered and foreign to the biocenosis of Lake Druzno. Dominant, secondary and indirect hosts were also differentiated (only Asellus aquaticus is indirect). The quantitative ratio of sex was found for several species of Acanthocephala.

Vaccari, I., G. Ballarini, G. Pieresca, L. Bertoni, and L. Semellini. ATTIVIVITÀ SVOLTA DAL "CENTRO RICERCHE MALATTIE DELLA SELVAGGINA" (FIC) DURANTE IL TRIENNIO 1956-1957-1958 / ARGOMENTI DI PATOLOGIA DELLA SELVAGGINA. [REPORT OF THE ACTIVITIES OF THE WILD ANIMAL DISEASE RESEARCH CENTER (FIC) DURING 1956-8 / SUMMARY OF WILD ANIMAL PATHOLOGY.] Edizioni "La Nuova Vet." (Faenza). 271 p., illus. 1960. WR 102: 11

In Italian. The first part of this publication deals with the administration and activities of the "Wild Animal Disease Research Center" of the Faculty of Vet. Med., University of Parma. Part II (p. 71-87) is a general account of wildlife, its threatened destruction, and the needs and means of preserving wildlife in the modern world. Parts III and IV (p. 89-223) are general and specific accounts of wildlife diseases. Appended to the work are 23 tables summarizing not only the diseases of wildlife but also information such as body weight, rectal temperatures, rate of heart beat, respiration rate, longevity, breeding season, gestation and incubation periods, and rates of travel for many species of wildlife. There is a glossary of scientific terms.

Vysotskii, B. V., and V. K. Rakhilin. [EXAMINATION OF AQUATIC BIRDS AND TURTLES FOR LEPTOSPIROSIS.] J. Microbiol. (Moscow) no. 9: 42-44. 1960. [From abstr. in Vet. Bull. 31(1), 1961.] WR 102: 11

In Russian. In a district where leptospirosis occurred among rodents, agglutination tests on sera from 104 wild ducks, 22 moorhens, and 10 turtles gave negative results. Serum from one of 4 Siberian wild geese agglutinated L. saxkoebing at 1 : 400.--R.M.

WILDLIFE--PARASITES & DISEASES--Continued

Weatherly, Norman P., and Albert G. Canaris. (Oreg. State Coll., Corvallis.) SOME PARASITES OF OREGON AND WASHINGTON VERTEBRATES. J. Parasitol. 47(2): 230. Apr. 1961. WR 102: 12

Vertebrates examined included brush rabbits, striped skunks, red-shafted flickers, hairy woodpecker, killdeer, western toads, rough-skinned newts, and whitefish.

WILDLIFE--POPULATIONS & FLUCTUATIONS

Riabinin, S. RESULTS OF OBSERVATIONS OF THE PHENOLOGY OF BIRDS, INSECTS AND PLANTS. Ekol. Polska, Ser. A (Warsaw) 6(8): 293-314. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 12

In Polish with English summary. Observations made over a period of 10 years of the phenology of insects, birds and plants confirmed the synchronization of seasonal phenomena of these three groups of organisms. This synchronization is closer towards the end of spring than at the beginning, when fluctuations occur in the dates of appearance of different species. The chief factor governing this is formed by meteorological conditions. The author deals with general problems of phenology, in particular of zoophenology, and indicates its connection with forestry, agriculture, protection of nature, etc.

WILDLIFE--BIOMETRICS

Palley, Marshall N., and Leah G. Horwitz. (Univ. Calif., Berkeley.) PROPERTIES OF SOME RANDOM AND SYSTEMATIC POINT SAMPLING ESTIMATORS. Forest Sci. 7(1): 52-65, 5 figs. Mar. 1961. WR 102: 12

Deals with the unbiasedness and the variance in the class of Bitterlich-type samples called point samples. Both random and systematic sampling plans are treated and a modified version of point sampling involving a subsample is considered.

WILDLIFE--TECHNIQUES

Carson, James D. (W. Va. Conserv. Comm., Charleston.) EPIPHYSEAL CARTILAGE AS AN AGE INDICATOR IN FOX AND GRAY SQUIRRELS. J. Wildl. Mgmt. 25(1): 90-93, 1 fig. Jan. 1961. WR 102: 12

Summary: X-ray examination of the distal epiphyses of the long bones of the lower foreleg of 10 hand-reared fox and gray squirrels revealed that adults can be safely separated from young-of-the-year between the dates of July 1 and January 15 for fox squirrels, and February 1 and December 1 for gray squirrels. Spring-born and summer-born young can be separated by this method.

Colwell, Robert N., editor. MANUAL OF PHOTOGRAPHIC INTERPRETATION. Am. Soc. Photogrammetry, 1515 Mass. Ave. NW, Washington 5, D. C. xv + 868 p., illus. 1960. Price non-members $15.00, members $12.00. WR 102: 12

This manual satisfies the need for an authoritative, comprehensive treatment on photo interpretation which is equally adaptable as a text and a reference work. The sixteen individually edited chapters were prepared by nearly one hundred recognized authorities. There are five chapters on general techniques: development of photo interpretation, procurement of aerial photography, fundamentals of photo interpretation, special forms of photo interpretation, and education and training in photo interpretation. The remaining chapters deal with the application of photo interpretation in the fields of geology, soils, engineering, forestry, wildlife management, range management, hydrology and watershed management, agriculture, urban area analysis, archaeology, and geography. In addition there are 11 appendices, a glossary, and an index. Individual bibliographies make each chapter a complete unit--but cross-references between chapters emphasize the mutually supporting procedures and techniques. Without the device of cross-references, the size of this large volume would have been expanded considerably--with a resulting cost which would have taken it out of the price range of those who need it most.

Karry, Ted, and Margaret Key. THE SPORTSMAN'S COOKBOOK. Doubleday & Co., Inc., 575 Madison Ave., N. Y. 22, N. Y. 214 p., illus. 1961. Price $3.50. WR 102: 13

A collection of recipes and methods of preparing and cooking wild game at home. Most of the recipes are rather exotic and require ingredients that one might not ordinarily have in the home. However, since game is not ordinary fare, one should take every advantage of the culinary art--thereby pleasing even the gourmet's palate. Although it does not give recipes for any of the small mammals, except rabbit, it does give a variety of recipes for big game, game birds, and fish. Instructions are given for using the less popular cuts as well as roasts, steaks, and chops. The authors' stories and anecdotes throughout the text make interesting reading, but could be elimimated from a cookbook. Readers will find the section on field dressing and preparation of game for cooking useful in avoiding loss from spoilage. A section on butchering of the various animals would be a welcome addition.--Mary F. Myers.

Larson, Joseph S. (Box 1510, Annapolis, Md.) INTRODUCING THE HYPO-ARROW. The National Bowhunter 15(7): 6-7, 1 fig. Feb. 1961. WR 102: 13

A general discussion of the development of the hypodermic cartridge and its recent adaptation to arrows. Possible conservation and safety implications in hunting white-tail deer are included in the discussion.--Author.

Linde, A. F. (Box D, Horicon, Wis.) PORTABLE PUMP USEFUL IN CONSERVATION. Wis. Conserv. Bull. 25(7): 29-32, 6 figs. July-Aug. 1960. WR 102: 13

"Game men adapted an outboard motor to pump muck or water. This pump, highly portable and economical for occasional use, proved itself in cleaning Horicon's level ditches.... Possibilities for additional uses are offered in: 1. Cleaning and deepening small streams. 2. Deepening sand beaches and cleaning out silts. 3. Marsh habitat improvement work. 4. Cleaning out trout springs."

Miles, Virgil I., and Alva R. Kinney. (Communicable Disease Center, San Francisco, Calif.) AN APPARATUS FOR RAPID COLLECTION OF FLEAS FROM RODENT NESTS. J. Parasitol. 43(6): 656-658, 2 figs. Dec. 1957. WR 102: 13

The apparatus which incorporates a fan and heating unit can process approximately 20 nests in a working day.

Montgomery, G. G. (Pa. State Univ., University Park.) A MODIFICATION OF THE NICOTINE DART CAPTURE METHOD. J. Wildl. Mgmt. 25(1): 101-102. Jan. 1961. WR 102: 13

A small dart which utilized nicotine alkaloid with a commercial effervescent as a carrier substance was developed. The advantages of this over earlier model darts were: longer range, greater accuracy, and lower cost. The major disadvantage was deep penetration of the dart.--From summ.

Morse, Marius A., and Donald S. Balser. (Minn. Dept. Conserv., St. Paul.) FOX CALLING AS A HUNTING TECHNIQUE. J. Wildl. Mgmt. 25(2): 148-154, 1 fig. Apr. 1961. WR 102: 13

Seven commercial calling devices and a hi-fi record player producing rabbit distress cries were tested and all devices attracted foxes, but no single one proved infallible. Conditions most important to success included (1) calling late in the day, (2) calling when wind velocity was less than 3 mph, and (3) skillful approach of the operator to the calling site. Fox calling is recommended as a useful technique.--From summ.

Pistey, Warren R., and James F. Wright. (Univ. Va., Charlottesville.) IMMOBILIZATION OF CAPTIVE WILD ANIMALS. Vet. Med. 54(10): 446-449, illus. Sept. 1959. WR 102: 13

Preliminary trials using succinylcholine chloride to produce temporary paralysis in 5 species of captive wild animals are reported.--From summ.

Pistey, Warren R., and James F. Wright. (Univ. Va., Charlottesville.) THE IMMOBILIZATION OF CAPTIVE WILD ANIMALS WITH SUCCINYLCHOLINE. II. Can. J. Comp. Med. Vet. Sci. 25(3): 59-68. Mar. 1961. WR 102: 14

The problems, methods, and drugs used in immobilization are reviewed, followed by a discussion of the pharmacology of succinylcholine and the techniques used. Data are presented on dosages needed for captive lions, tigers, elands, zebus, and bears.

Riviere, Bill. THE CAMPER'S BIBLE. Doubleday & Co., Inc. (Garden City, N. Y.). 176 p., illus. paperback. 1961. $1.95. WR 102: 14

This large (7.75" x 10.25") book by a former guide should be welcomed by both the neophyte and the seasoned outdoorsman. The wide scope of this book is best indicated by the titles of the 15 chapters: Tents and their variations; How to buy a tent; Choosing a campsite; Tenting tips; The campfire; Axes, saws, and knives; Cooking in camp; Stoves, lights, refrigerators; Sleeping gear; Packs and packing; Clothing, boots, personal gear; Using maps and the compass; Camping safety; The canoe; The weather. Sources of maps and camping information in the U. S. and Canada are listed in a useful appendix. The author has managed to balance time-tested techniques against new-fangled gadgetry and to come up with a book that has something "new" for all readers--regardless of their experience in camping.

Talbot, Lee Merriam. FIELD IMMOBILIZATION OF SOME EAST AFRICAN WILD ANIMALS AND CATTLE--1. East African Agr. & For. J. 26(2): 92-102. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 14

Eighty to 90% success has been achieved using a CO_2 powered pistol shooting an automatically injecting dart-syringe from a vehicle, either moving slowly past an animal or chasing it at high speed for a short distance. Experiments have been conducted with the immobilizing drugs succinylcholine chloride, nicotine, Sernyl, tubocurarine, and Flaxedil, and one or more of these have been tried on 11 species of wild animals and on cattle. General principles regarding the use and effect of immobilizing drugs are presented. Experiments have been carried out using tranquilizing drugs (Largactil and Diquel) in conjunction with Flaxedil to facilitate translocation of wild animals. Using these drugs, Thomson's and Grant's gazelle and wildebeeste have been successfully moved cross country in Land-Rover or lorry. Succinylcholine chloride and Flaxedil are the most successful immobilizing drugs tried to date for certain species. However both drugs have disadvantages and research aimed at finding more effective immobilizing drugs is continuing.--Author.

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Barber, Harold L. WHAT HAS HAPPENED TO OUR QUAIL AND RABBITS? Ky. Happy Hunting Ground 17(3): 28-29, illus. May 1961. WR 102: 14

Low populations and harvests of rabbits blamed on severe winter of 1959-60 and rainy nesting season of 1960. This is temporary and a build-up in rabbit population levels is projected. In Kentucky, quail populations are down and will continue to be--due to reduction of quail habitat through scientific farming. Squirrel, grouse, and deer are on the increase and will continue to be.

Maguire, H. F. (N. Y. Dept. Game, Albany.) SMALL GAME HARVEST 1959-1960. (N. Y.) Conservationist 15(3): 12-13, illus. Dec.-Jan. 1960-61. WR 102: 14

Statewide estimates of total kill, hunter success, hunter bag, and miscellaneous hunting information were obtained from a questionnaire mailed to 7,400 N. Y. hunters. Of the 7,038 who received the questionnaire, 80% replied.

WILDLIFE--HUNTING AREAS & PROBLEMS

MacNamara, L. G. (N. J. Div. Fish & Game, Trenton.) SHOOTING PRESERVES IN NEW JERSEY. N. J. Outdoors 11(8): 7-14, illus. Feb. 1961. WR 102: 15

An account of the role of shooting preserves in N. J. and their increase. In 1948, there were 68 semi-wild preserves in operation in N. J. In 1960, there were 143 which controlled a total of 30,423 acres of land. During 1960, there were 25 commercial shooting preserves in operation which controlled a total of 9,352 acres of N. J. land.

Toschi, A., E. Bassini, and O. Cervi. INDAGINI STATISTICHE ED ECOLOGICHE SUI TERRITORI VINCOLATI A PROTEZIONE DELLA SELVAGGINA. [STATISTICAL AND ECOLOGICAL RESEARCH ON THE TERRITORIES BOUNDED BY GAME PROTECTION.] Ric. Zool. Appl. Caccia 33: 1-63. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 15

[In Italian] with French, English, and German summaries. An inquiry was made by the public game administrations and shooting associations to find the number and total surface of game preserves, protected areas, other territories devoted to increasing game and of free shooting lands. The amount and efficiency of the different areas where shooting is forbidden or controlled compared with the number of the hunters and the ecological and faunistic conditions are discussed.--Authors.

WILDLIFE--FOOD HABITS & TECHNIQUES

Caillouet, Charles W., Jr. NUTRIENT CONTENT OF SOME SEEDS AND FRUITS UTILIZED AS FOOD BY WILDLIFE IN LOUISIANA. M.S. thesis, La. State Univ. 72 p. Aug. 1960. WR 102: 15

Includes proximate and partial mineral (calcium and phosphorus) analyses of seeds or fruits of 74 plant species (30 families) collected from Sept. 1959 to May 1960.--Auth. abstr.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Abbott, Herschel G., and Wendell E. Dodge. (Univ. Mass., Amherst.) PHOTOGRAPHIC OBSERVATIONS OF WHITE PINE SEED DESTRUCTION BY BIRDS AND MAMMALS. J. Forestry 59(4): 292-294, 4 figs. Apr. 1961. WR 102: 15

"A camera synchronized to an electronic flash unit permits photographing animal activity and makes it possible to record such supplementary data as temperature, relative humidity, and time of day when activity occurs." During a 14-day study, 425 frames were exposed with gray-squirrels being responsible for 338 of them, white-footed mice--49, and white-throated sparrows--38.

Beard, Raimon L., and others. HANDBOOK ON BIOLOGICAL CONTROL OF PLANT PESTS. Brooklyn Botan. Garden, Plants & Gardens Handbook no. 34. 97 p., illus. 1960. $1.00. WR 102: 15

A special printing of Plants & Gardens 16(3). A collection of 16 papers on biological control presenting both theory and application. Two articles related to the wildlife field are: Raymond C. Bushland's INSECT ERADICATION BY MEANS OF STERILIZED MALES, and Roland C. Clement's BIRDS AND INSECT CONTROL.

Cseszndk, E. VADKÁR ELHÁRÍTÁS A PILISBEN. [PROTECTION AGAINST GAME IN THE PILIS MOUNTAINS.] Erdö 8(7): 257-260 + summaries in suppl. 1959. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 21 Feb. 1961. WR 102: 15

In Hungarian with Russian and German summaries.--Courtesy/ Frank M. Johnson.

de Ong, E. R. CHEMICAL AND NATURAL CONTROL OF PESTS. Reinhold Publishing Corp. (N. Y.). viii + 244 p., 12 figs. 1960. WR 102: 15

This book, consisting of 12 chapters, is organized into 2 parts: Natural control of pests, and Chemical control of insects, plant diseases, weeds, and rodents. Its purpose is to assist manufacturers, research workers, instructors, and farmers in the evaluation of the two methods. An appendix contains a list of the chemical names of pesticides and their function.

Kebbe, Chester E. BOUNTIES. Oreg. State Game Comm. Bull. 16(2): 3, 6, 8. Feb. 1961. WR 102: 16

A review of the past history and current status of bounties in Oreg. Last authentic record of timber wolf was in 1946. The cougar is heading for extinction--only 36 bounty payments made in 1959. This same year, bobcat bounty payments had attained the high of 3,128--a steady climb from the 1,357 taken in 1951.

Lund, H. M. K. [STINKING ROPE KEEPS RABBITS, DEER AND ELK FROM THE FRUIT TREES.] Yrkesfruktyrking 2: 27. 1 Mar. 1960. [From Bibliog. Agr. 24(10), 1960.] WR 102: 16

"In Norwegian."

Ryker, T. C. (E. I. duPont de Nemours & Co., Wilmington 98, Del.) PROTECTING ORCHARDS AND WOODLANDS WITH CHEMICAL REPELLENT FOR BROWSING ANIMALS. Agr. News Letter 29(1): 6-7, 4 figs. Winter 1961. WR 102: 16

"Rabbit damage and deer browsing can be effectively prevented through the use of 'Arasan' 42-S thiran fungicide and repellent. This chemical, already widely used as a seed protectant, is known to prevent seed damage from rodents, birds, and other wild predators, especially in direct forest seedlings." Data on investigations in 8 states is tabulated.

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

Alberta. ANNUAL REPORT OF THE DEPARTMENT OF LANDS AND FORESTS...FOR THE FISCAL YEAR ENDED MARCH 31ST 1960. Queen's Printer (Edmonton). 166 p., illus. 1961. WR 102: 16

The Fish and Wildlife Administration report on pages 77-114 summarizes the status of upland game birds, big game, and waterfowl. Hatching dates of pheasant, Hungarian partridge, ruffed grouse, and sharp-tailed grouse are graphed. Disease studies and fur harvests are summarized. Inclement weather "pushed back" the pheasant and Hungarian partridge hatching peaks, increased the degree of renesting, and resulted in smaller clutches and broods of upland game birds. The general population trend for big game was upward in 1959. Breeding populations of most species of waterfowl were up--but pintail and blue-wing teal populations were 19% and 33% below the long term average.

Arizona. ANNUAL REPORT, 1959-60, ARIZONA GAME AND FISH DEPARTMENT. Ariz. Wildl. Views 8(1): 1-35, illus. Jan. 1961. WR 102: 16

Entire issue devoted to annual report. The first 9 pages deal with summary accounts of small game, waterfowl, statewide development and maintenance, and research. The total deer kill for 1959 of 31,224 deer is tabulated by species. Big game hunter success was: deer -- 39.7%; antelope -- 61.0%; elk -- 25.2%; bighorn -- 30.6%; javelina -- 20.5%; and buffalo -- 100%. Pages 21 through 23 summarize the wildlife research findings of the Ariz. Coop. Wildl. Res. Unit on javelina, white-tailed deer, Gambel's quail, and fish studies.

Branch of Federal Aid, Fish and Wildlife Service. FEDERAL AID IN FISH AND WILDLIFE RESTORATION. ANNUAL REPORT ON DINGELL-JOHNSON AND PITTMAN-ROBERTSON PROGRAMS FOR THE FISCAL YEAR ENDING JUNE 30, 1960. Wildl. Mgmt. Inst. (Wire Bldg.) and Sport Fishing Inst. (Bond Bldg.), Washington 5, D. C. vi + 97 p., illus. 1961. WR 102: 16

"The purpose of this report is to show what the States are doing under the Pittman-Robertson and Dingell-Johnson Acts to secure, restore and manage places where hunters and anglers can pursue the sports of hunting and fishing.... Wildlife activities in 1960, in terms of financial obligations, were emphasized in the following order: Development, Research, Land Acquisition and Coordination." In fisheries, Research was emphasized more than Development.

Maryland. TWENTY-SECOND ANNUAL REPORT OF THE DEPARTMENT OF GAME AND INLAND FISH / 1960. Md. Conserv. [37(6)]: 1-32, illus. [Nov.-Dec.] 1960. WR 102: 17

Report for year ending June 30, 1960. The game management section (p. 4-11) includes entries on wildlife habitat improvement, game investigations (waterfowl and white-tailed deer), construction and maintenance, emergency winter feeding, game propagation, live trapping, land acquisition, public hunting areas, and the Maryland game situation. Tables are presented showing game bird distribution and releases, live trapping and releases by species, and a summary of the wildlife habitat improvement work.

Massachusetts. DIVISION OF FISHERIES AND GAME ANNUAL REPORT 1960. Mass. Wildl. 12(1): 1-22, illus. Jan.-Feb. 1961. WR 102: 17

Entire issue devoted to annual report. Game section includes information on statewide development project, experimental wetland management, and the game population trend and harvest survey.

New Hampshire. BIENNIAL REPORT OF THE DEPARTMENT OF FISH AND GAME JULY 1, 1958 TO JUNE 30, 1960. 64 unnumbered p., illus. [1960?] WR 102: 17

A non-technical report which includes tables on the deer kill and sex ratio, by counties, and the furbearer take for the years 1958 and 1959. There are general reports on waterfowl, deer, bear, pheasants, and ruffed grouse.

New Jersey. ANNUAL REPORT OF DIVISION OF FISH AND GAME FOR THE FISCAL YEAR COMMENCING JULY 1, 1959 AND ENDING JUNE 30, 1960. 1-68 p., illus. [1960.] WR 102: 17

This report follows the pattern of earlier ones: pages 37-48 deal with wildlife management and have sections on white-tailed deer management (population, harvest, and sex and age composition); harvest of major wildlife species; summaries of investigational activities; progress reports on wildlife control, forest management, farm game habitat restoration, and state game farm operations for 1959-60.

Nova Scotia. REPORT OF THE DEPARTMENT OF LANDS AND FORESTS / FISCAL YEAR ENDING MARCH 31, 1960. Queen's Printer, Halifax, N. S. 36 p. 1960. WR 102: 17

Pages 25-32 are devoted to game activities, and kill statistics for deer, moose, and pheasants are given. Bear bounty payments, beaver take, and hide and pelt exports are tabulated.

Oregon. 1960 ANNUAL REPORT / OREGON STATE GAME COMMISSION / GAME DIVISION. 166 p., sketches and graphs. 1960. WR 102: 17

A compilation of detailed reports on the game species of Oregon. Waterfowl and upland game production were below that of 1957 and 1958 and lower harvests were made. Although antelope fawn production was below normal, survival was high and the spring populations of 1960 averaged the same as in 1959. Big game populations were about the same except for the black-tailed deer which were on the increase.--From summ.

Resources for the Future. RESOURCES FOR THE FUTURE / ANNUAL REPORT FOR THE YEAR ENDING SEPTEMBER 30, 1960. Resources for the Future, 1775 Mass. Ave. NW, Washington 6, D. C. iii + 99 p., maps and graphs. Dec. 1960. WR 102: 17

Progress report of work on basic conservation problems. There are 3 special reports: A better gauge of the water outlook, Nathaniel Wollman; The outlook for nuclear energy, Sam H. Schurr; and Measuring regional growth, Harvey S. Perloff and others. Other sections include: water resources, energy and minerals, land use and management, regional studies, appraisals and special projects, resources education, and bibliography of publications.

Saskatchewan. ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES...FOR THE FISCAL YEAR ENDED MARCH 31, 1960. Queen's Printer (Regina). 244 p., illus. 1960. WR 102: 17

Pages 64 to 94 -- the Wildlife Branch report -- summarize game conditions and the activities of the branch. There are reports on research (upland game, waterfowl, big game, red squirrels, and furbearers) and management with tabulations of harvest of gamebirds, big game, and furbearers. The total value of wild fur pelts in Sask. for 1959-60 was slightly more than $2 million.

WETLANDS & WILDLIFE

Kadlec, John A. THE EFFECT OF A DRAWDOWN ON THE ECOLOGY OF A WATERFOWL IMPOUNDMENT. Ph.D. thesis, Univ. Mich. 194 p. 1960. [Long abstr. in Dissertation Abstr. 21(8), 1961.] WR 102: 18

For "Game Report" based on this thesis, see WR 100: 69.

Provost, Maurice W. (Entomol. Res. Center, Fla. State Board Health, Vero Beach.) IMPOUNDING SALT MARSHES FOR MOSQUITO CONTROL...AND ITS EFFECT ON BIRD LIFE. Fla. Nat. 32(4): 163-170, illus. Oct. 1959. WR 102: 18

Before impoundment, the intertidal land along the coasts was nearly devoid of bird life. The impoundments provide marshes which are havens for ducks, large waders, many sea birds, and several species of land birds. These marshes provide abundant food, cover, and nesting habitat for many of these forms. The numerous canals and dikes facilitate management and observation. Persons and organizations wishing to see development of water areas to conserve wildlife should take immediate steps to purchase this land.--Mary F. Myers.

FARMLAND & WILDLIFE

Dugan, R. Franklin. (215 W. Campbell Ave., Roanoke, Va.) MULTIFLORA ROSE IN WEST VIRGINIA. Bull. W. Va. Agr. Expt. Sta. 477: 5-34, illus., map. 1960. [From Biol. Abstr. 36(9), 1961.] WR 102: 18

Multiflora rose has been widely used in conservation plantings throughout the United States during the past 25 years. In West Virginia, approximately 14 million multiflora rose plants have been distributed to farmers and other landowners.--From auth. summ.

Roddy, Roy. SESAME PROVES A BIG SUCCESS WITH LANDOWNERS. Texas Game & Fish 19(4): 20-21, illus. Apr. 1961. WR 102: 18

A mixture of early and late maturing sesame "continues to prove itself in all parts of...[Texas] as a dependable food crop for game birds during the barren months of fall and winter." Planting rate is 1.5 pounds per acre in rows with yields of 500-600 pounds of seed. Used by dove, quail, wild turkey, and deer. Planting date for southern Texas was June 1, for North Central Texas --June 15.

RANGELAND & WILDLIFE

Biswell, H. H. Univ. Calif., Berkeley.) MANIPULATION OF CHAMISE BRUSH FOR DEER RANGE IMPROVEMENT. Calif. Fish & Game 47(2): 125-144, 12 figs. Apr. 1961. WR 102: 18

In a comparison of an opened area of brushland with one of heavy untreated brush (control) and with another burned by wildfire, it was found that the summer deer population in the opened areas was about three times that of the control and that the population in the burned area equalled that of the opened area. Management methods to maintain open areas include burning, grazing, bulldozing, and disking. A combination of these methods with reseeding of desirable forage plants is recommended.

Brohn, Allen, and Thomas S. Baskett. (Mo. Conserv. Comm., Jefferson City.) FREE LIVESTOCK RANGE IN MISSOURI. Univ. Mo. Agr. Expt. Sta. B761. 4 p., 4 figs. Jan. 1961. WR 102: 18

Maps are given for the free livestock range in Mo. for 1935, 1939, 1948, and 1960. It has steadily decreased from 11,383 sq miles in 1935 to 4,283 sq miles in 1960 benefiting forage plants, tree seedlings, forest soils, and wildlife.

Ellison, Lincoln. (Forest Serv., Ogden, Utah.) INFLUENCE OF GRAZING ON PLANT SUCCESSION OF RANGELANDS. Botan. Rev. 26(1): 1-78. Jan.-Mar. 1960. WR 102: 18

Discusses True Prairie, Mixed-Grass Prairie, Desert Grassland, Southern Desert Shrub, Pacific Prairie, Palouse Grassland, Northern Desert Shrub, and Mountain Rangelands; also the effects of grazing on wild animals. There is a long bibliography.--N. Hotchkiss.

Kinsinger, Floyd E., and Richard E. Eckert, Jr., compilers. (Univ. Nevada, Reno.) RANGE MANAGEMENT THESES SINCE 1955. J. Range Mgmt. 14(1): 51-54. Jan. 1961. WR 102: 19

Some of the M.S. and Ph.D. theses in range management listed are concerned with wildlife.

Talbot, M. W., and F. P. Cronemiller. SOME OF THE BEGINNINGS OF RANGE MANAGEMENT. J. Range Mgmt. 14(2): 95-102, 4 figs. Mar. 1961. WR 102: 19

A review of the history of range management in America to the year 1919.

FORESTLAND--FORESTRY & ECOLOGY

Bailey, James A., and Maurice M. Alexander. (Syracuse Univ., Syracuse, N. Y.) USE OF CLOSED CONIFER PLANTATIONS BY WILDLIFE. N. Y. Fish & Game J. 7(2): 130-148, 4 figs. July 1960. WR 102: 19

Results of a summer study of the birds and mammals in a 256-acre closed plantation of red pine, white pine, and Norway spruce on the Tully Forest (N. Y.). Ruffed grouse was the principal game species. Chickadees, robins, black-throated green warblers, and towhees were common in the plantation. Information was gathered on various mammals including deer and cottontails. Diel differences in use of plantation by grouse were noted. Results support the principle that, where game is an important consideration, large plantations of conifers should be broken up with openings that will provide an interspersion of brushy cover.--From auth. abstr.

Bednarek, A. FOREST ASSOCIATIONS IN THE LIPKA RESERVE. Zeszyty Naukowe SGGW, Forestry (Warsaw) no. 1. p. 43-72, 6 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 19

In Polish with German summary. The work on the flora of the reserve examined consisted in determining the specific composition, differentiation of associations, and analysis of the structure of the height-layers. The character of afforestation areas as replacements was taken into account and in this connection a forecast is given of the development of the forest stands examined.

Gysel, Leslie W. (Mich. State Univ., East Lansing.) AN ECOLOGICAL STUDY OF TREE CAVITIES AND GROUND BURROWS IN FOREST STANDS. J. Wildl. Mgmt. 25(1): 12-20, 2 figs. Jan. 1961. WR 102: 19

Measurements and observations of cavities in trees and logs, of ground burrows, and counts of leaf nests were made in beech-maple type forest and in the oak-hickory type in East Lansing, Mich. Cavities at bases of trees were common only in beech-maple stands, generally in enlarged bases of large trees. These were used primarily for temporary refuge by fox squirrels, raccoons, and mice. Cavities in boles above the bases were commonly used by fox squirrels and hole-nesting birds. Burrows were most commonly used by red foxes and raccoons.--From summ.

Hurd, E. S. DEER, TREES AND PEOPLE. Am. Forests 67(2): 12-14, 71, 73, 74, illus. Feb. 1961. WR 102: 19

Deer and forest management as seen by the game manager, the forester, and the public.

Lotti, Thomas, Ralph A. Klawitter, and W. P. LeGrande. PRESCRIBED BURNING FOR UNDERSTORY CONTROL / IN LOBLOLLY PINE STANDS OF THE COASTAL PLAIN. SE Forest Expt. Sta., Sta. Paper no. 116. 19 p., 11 figs. Dec. 1960. WR 102: 19

"In the face of the evidence presented, fire has a definite place in the silviculture of coastal plain loblolly pine. Even so, fire should be considered a tool to be prescribed when and where needed. At the discretion of the forest manager, fire can be used in immature stands of loblolly pine for the control of understory hardwoods and seedbed preparation. The season and frequency of burning depend on the degree of effectiveness desired. In any event, the fires can be prescribed without fear of damage to the stand or site. Provided the burns do not get away and turn into wildfires, benefits far exceed any damage we have been able to measure."

McCormick, Jack, and John W. Andresen. (Am. Mus. Nat. Hist., New York, N. Y.) SOME EFFECTS OF ANIMALS ON THE VEGETATION OF THE NEW JERSEY PINE BARRENS. Bull. Torrey Botan. Club 87(6): 375-385. Nov. 1960. WR 102: 20

Effects of insects: defoliation by locusts, defoliation by lepidopterous larvae, reduction of reproductive potential by acorn weevils, spider balds, ant balds. Effects of mammals: deer beds, antler rubbing, the effect of deer urine on mosses, the effect of small mammal excavations.--N. Hotchkiss.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Bencze, L., and I. Csapody. AZ ALSÓDUNA-ÁRTÉRI ERDÖK TÁRSULÁSAINAK VADGAZDÁLKODÁSI VONATKOZÁSAI. [INTERRELATIONS OF GAME MANAGEMENT AND FOREST ASSOCIATIONS IN THE FLOOD AREA OF THE LOWER DANUBE.] Erdö 7(6): 230-235. 1958. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 6 Mar. 1961 listing of abstr. in Hungarian Agr. Rev. 7(4), 1958.] WR 102: 20

In Hungarian. To preserve in the national interest, this world famous stock of game, the natural forest associations should be examined and maintained. If stocks greater than the carrying capacity are kept, artificial feeding (planting shrubs, provision of agricultural crops, winter forage) must be provided. Modern silviculture and protection can be made to work in harmony with high quality game management.--Courtesy/ Frank M. Johnson.

Jérome, R. FOREST DAMAGES CAUSED BY DEER. Erdö 9(7): 251-252. July 1960. [From Bibliog. Agr. 25(2), 1961.] WR 102: 20

In Hungarian.

Kocsárdy, K. REDUCING WILDLIFE DAMAGES WITH BOARDING FENCES IN HUNGARY. Erdö 9(10): 377-380. Oct. 1960. [From Bibliog. Agr. 25(2), 1961.] WR 102: 20

In Hungarian.

Szczerbinski, W. TREATMENT OF SPRUCE AND PINE STANDS RIPPED BY GAME ANIMALS. Sylwan 104(5): 37-45. May 1960. [From Bibliog. Agr. 25(1), 1960.] WR 102: 20

"In Polish with English summary. Improvement felling."

STRIPPED LAND & MISCELLANEOUS HABITATS

Al'benskij, A. V., G. V. Krylov, and B. I. Logginov. [USING FAST-GROWING SPECIES IN SHELTERBELTS.] Sel'hozgiz (Moscow). 112 p., illus. 1956. Price 1.40 rubles. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 6 Mar. 1961.] WR 102: 20

In Russian. A practical manual, discussing the possibilities (rates of growth, etc.) of Ailanthus altissima, Robinia sp., Betula verrucosa, Elms, Gleditsia triacanthos, Quercus robur, Willows, Acer negundo, Sophora japonica, Poplars, Fraxinus pennsylvanica, Larix sibirica, Scots pine, Tilia cordata, Picea abies, and P. obovata in various parts of the U.S.S.R.--Courtesy/ Frank M. Johnson.

Barber, Harold L. WILDLIFE HABITAT MANAGEMENT ON UTILITY RIGHTS OF WAY MAY PROVIDE MUCH NEEDED AREAS OF FOOD AND COVER IN THIS STATE. Ky. Happy Hunting Ground 17(3): 30-31, illus. May 1961. WR 102: 20

Techniques to improve habitat for deer, grouse, rabbit, and quail on Ky. rights of way are described.

CONTROL OF VEGETATION WITH HERBICIDES ETC.

Anonymous. AQUATHOL AQUATIC HERBICIDE NOW AVAILABLE COMMERCIALLY. Agr. Chemicals 16(4): 23, 2 figs. Apr. 1961. WR 102: 20

Aquathol "is relatively non-toxic and completely safe to fish and aquatic fauna in the concentrations normally used [0.5 to 5 ppm].... Aquathol is manufactured in two forms--liquid and granular. Both depend upon endothal [disodium 3,6 endoxo hexahydro phthalate] as the active ingredient.... Among the weeds which are effectively controlled with aquathol are horned pondweed,

coontail, water stargrass, milfoil, bushy pondweed, bassweed, curly leaf pondweed, floating-leaf pondweed, sago pondweed, flat-stem pondweed, bur weed and duckweed. In northern areas, pithophora, cladaphora, and spirogyra algae also can be controlled with Aquathol."

Leaf, Albert L., and Robert E. Smith, Jr. (Syracuse Univ., Syracuse, N. Y.) HERBICIDAL VALUE OF ARSENIC TRIOXIDE IN EASTERN UNITED STATES. Weeds 8(3): 374-378. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 21

The herbicidal effectiveness of As_2O_3 (arsenic trioxide) in Eastern United States varied with type and rate of arsenic application, type of vegetation, and soil moisture, drainage and texture. The toxic effect of non-dusting powder As_2O_3 was greater for grasses and herbaceous plants than for woody vegetation 3 years after treatment. The toxicity of As_2O_3 was greater on coarse than fine textured soils and on wet as compared to well-drained soils. --Author.

Mason, Edwin A. (Arcadia Wildl. Sanctuary, Mass.) SANE USE OF HERBICIDES. Am. Forests 67(3): 30-31, 50, 1 fig. Mar. 1961. WR 102: 21

Recommends spot use of herbicides instead of blanket spraying and using a pelleted herbicide such as Dybar instead of volatile materials such as 2,4-D and 2,4,5-T.

van Overbeek, J., W. J. Hughes, and R. Blondeau. (Shell Development Co., Agr. Res. Div., Modesto, Calif.) ACROLEIN FOR THE CONTROL OF WATER WEEDS AND DISEASE-CARRYING WATER SNAILS. Science 129(3345): 335-336, 1 fig. 6 Feb. 1959. WR 102: 21

Abstract: Injection of the biocide acrolein into irrigation canals killed submersed weeds, thereby reducing flow resistance and increasing capacity. In a 20-mile canal, 150 gallons raised throughput from 311 to 552 ft^3/sec. Acrolein also effectively eradicated aquatic snails; it promises to become a useful tool in the battle against Schistosoma blood flukes.

MAMMALS--FAUNAS AND MANUALS

Ames, Norma. (N. Mex. Dept. Game & Fish, Santa Fe.) OUTDOORS IN NEW MEXICO / PART I. MAMMALS. N. Mex. Dept. Game & Fish. 16 p., illus. 1960. WR 102: 21

A well-written booklet for children on the mammals of New Mexico. The introduction explains the various life zones, the difference between vertebrate and invertebrate animals, and what is meant by protected animals, game animals, and predators. The mammals are presented in 3 groups: game mammals, protected furbearers, and unprotected mammals. There is a brief description of each form; and characteristic habits, habitats and food habits are given.

Cockrum, E. Lendell. THE RECENT MAMMALS OF ARIZONA: THEIR TAXONOMY AND DISTRIBUTION. Univ. Ariz. Press (Tucson). viii + 276 p., 112 figs. 1960. WR 102: 21

The purpose of this book is to summarize the known distribution data on mammals in Ariz., to point out some of the known problems remaining to be solved, and to encourage others to add to the available information concerning Ariz. mammals. For Ariz., 290 different kinds of mammals are recognized "representing 135 species, 63 genera, 23 families, and 7 orders. Thus there appear to be more kinds of mammals in Arizona than in any other state in the United States with the exception of California." The synonomy and distribution of each kind of Ariz. mammal are given. A key to the species of mammals in Ariz. and an extensive bibliography complete the work.

Jackson, Harley H. T. MAMMALS OF WISCONSIN. Univ. Wis. Press (Madison). xii + 504 p., illus. + 80 maps. 1961. $12.00. WR 102: 22

"The most comprehensive book ever published on the mammals of Wisconsin." In the brief (15-page) introduction the physiography, ecological areas, and life zones of Wisconsin are described, the characteristics of mammals (with a key to the orders of recent Wisconsin forms and a hypothetical list) are outlined, and general notes on mammalogy and the use of this book are given. The individual life histories of the 84 Wisconsin mammals are arranged systematically and contain information on the taxonomy, identification marks, measurements, habitat, status and habits, collection data, and selected references. Listed under "selected references" are about half a dozen of the most important publications with reference to that particular mammal. Additional useful references are found in the more nearly complete bibliography (47 pages) at the end of the book. There is a fine selection of illustrations (more than 200 halftones, 150 drawings, and 80 maps) which complement the text. The species accounts are very detailed and are replete with information selected from a wide range of sources including the reports of early missionaries and fur traders as well as game division and museum publications. The material used in this book reflects the judgement of the author who has been intimately associated with Wisconsin mammalogy for nearly half a century--even antedating the biological survey of that state which was begun in 1917. There is little doubt that this book will be considered the standard reference work in Wisconsin mammalogy for generations.

Pearson, Paul G. (Rutgers Univ., New Brunswick, N. J.) MAMMALS OF THE FLINT-CHATTAHOOCHEE-APALACHICOLA RIVER AREA OF FLORIDA, GEORGIA AND ALABAMA. Quart. J. Fla. Acad. Sci. 23(1): 19-35. Mar. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 22

Pickvance, T. J., and F. Fincher. MIDLAND MAMMALS SURVEY II. MAMMALS OF WORCESTERSHIRE: A REVISED LIST. Proc. Birmingham Nat. Hist. & Philos. Soc. 19(1): 9-17. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 22

Soper, J. Dewey. (7115 81st Street, Edmonton, Alberta.) FIELD DATA ON THE MAMMALS OF SOUTHERN SASKATCHEWAN. Canadian Field-Nat. 75(1): 23-41, 5 figs. Jan.-Mar. 1961. WR 102: 22

The annotated notes are based upon the 535 mammal specimens taken in Saskatchewan in a total of about 13,000 trap-nights.

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Chudoba, St., and St. Humiński. FAUNA OF SMALL MAMMALS IN TERRITORIES FLOODED BY POLLUTED WATER AT OSOBOWICE. Zeszyty Naukowe WSR, Zootechnika (Wrocław) 5: 3-12. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 22

In Polish with Russian, English, and German summaries. The occurrence of 13 species was confirmed--no qualitative difference was found in the composition of mammal fauna in territory flooded and unflooded, but a significant quantitative difference was established. The relative density of Microtus arvalis Pall. is eight times smaller in flooded territory.

Martin, Edwin Perry. (Fort Hays Kans. State Coll., Hays, Kans.) DISTRIBUTION OF NATIVE MAMMALS AMONG THE COMMUNITIES OF THE MIXED PRAIRIE. Fort Hays Studies--New Ser., Sci. Ser. no. 1. iv + 26 p., 7 figs. Mar. 1960. WR 102: 22

Seasonal distribution by habitats of the vole, deer mouse, cotton rat, ground squirrel, harvest mouse, pocket mouse, and grasshopper mouse in 5 prairie communities of central Kansas.

Anan'un, V. V., E. V. Karaseva, L. P. Semenova, and Iu. G. Chernukha. NATURAL FOCI OF LEPTOSPIROSIS IN THE ALTAI TERRITORY. Zhur. Mikrobiol. Epidemiol. i Immunobiol. 30(3): 74-81. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 23

[From Russian.] Translated from Zhur. Mikrobiol. Epidemiol. i Immunobiol. 30(3): 61-66, 1959. It was established that the following are reservoirs of leptospirosis in the natural foci of the Altai Krai: common voles, field voles, root voles, narrow-skulled voles, northern red-backed voles, harvest mice, and common shrews.--From auth. abstr.

Bacon, Marion, Charles H. Drake, and Norman G. Miller. (Univ. Nebr., Omaha.) TICKS (ACARINA: IXODOIDEA) ON RABBITS AND RODENTS OF EASTERN AND CENTRAL WASHINGTON. J. Parasitol. 45(3): 281-286. June 1959. WR 102: 23

Seasonal variance noted of ticks found during a study of 904 rodents representing 17 spp. collected during a 3-year period and 1040 rabbits representing 4 spp. collected during 6 years.

Bárdoš, V., B. Rosicky, and J. Vesenjak-Zmijanac. (Acad. Sci., Prague, Czechoslovakia.) NOTES ON A STUDY OF THE ECOLOGY OF THE VIRUS OF TICKBORNE ENCEPHALITIS IN THE SLOVENIAN ALPS (YUGOSLAVIA). J. Hyg. Epidemiol. Microbiol. and Immunol. 3(2): 162-167. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 23

With French and German summaries. Neutralizing antibodies were determined in 7 species of small mammals.--From auth. abstr.

Beer, James R., Edwin F. Cook, and Robert G. Schwab. (Univ. Minn., St. Paul.) THE ECTOPARASITES OF SOME MAMMALS FROM THE CHIRICAHUA MOUNTAINS, ARIZONA. J. Parasitol. 45(6): 605-613. Dec. 1959. WR 102: 23

Based on 834 mammals collected from sw Ariz. Sixteen spp. of siphonaptera, 2 spp. of mallophaga, and 11 spp. of anoplura were found. The fleas showed more relationship in their distribution to the physical habitat than to the host species. Most lice, however, were highly host specific. Differences between size of infestation, sex ratios, and age ratios of ectoparasites are discussed.--From summ.

Borodin, V. P., N. A. Spitsyn, A. P. Samsonova, A. P. Koroleva, and V. P. Chunikhin. (Stalingrad Oblast Public Health Epidemiol. Sta., USSR.) NATURAL TULAREMIA FOCI OF THE RAVINE-STEPPE TYPE. Zhur. Mikrobiol. Epidemiol. i Immunobiol. 30(3): 43-50, map. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 23

[From Russian.] Translated from Zhur. Mikrobiol. Epidemiol. i Immunobiol. 30(3): 35-40, 1959. The natural tularaemia focus studied is of the ravine-steppe type, and its main components are apparently the yellow-necked field mouse and ixodiid ticks of the species Dermacentor marginatus and Rhipicephalus rossicus.--From auth. abstr.

Bruce, J. I., L. M. Llewellyn, and E. H. Sadun. (Walter Reed Army Inst. Res., Washington, D. C.) SUSCEPTIBILITY OF WILD MAMMALS TO EXPERIMENTAL INFECTION WITH SCHISTOSOMA MANSONI. J. Parasitol. 46(5--sect. 2): 33. Oct. 1960. WR 102: 23

Title and abstract only. The animals tested could be separated into three main susceptibility groups. Those of the first group comprising woodchuck, squirrel, white-footed mouse, meadow vole, and opossum permitted normal development of adults and passed viable eggs with miracidia which were infective for susceptible snails. From 11 to 40 percent of the cercariae to which these animals were exposed were recovered as mature adults. Eggs appeared in the stools as early as 53 days after exposure. Those of the second group comprising house rat, cottontail rabbit, raccoon, chipmunk, jumping mouse, and nutria harbored varying numbers of nearly mature worms but no fertile eggs were found in the stools. From 2 to 19 percent of the cercariae to which these animals were exposed were recovered as adults, most of which were immature. Those of the third group comprising fox and muskrat were very resistant and no adult worms were recovered at necropsy.

Burnett, Howard S., and Edward D. Wagner. (Coll. Med. Evangelists, Loma Linda, Calif.) TWO NEW DEFINITIVE HOSTS FOR THE EYE WORM, THELAZIA CALIFORNIENSIS PRICE, 1930. J. Parasitol. 44(5): 502. Oct. 1958. WR 102: 24

Lepus californicus and Canis latrans were infected.

Chernukha, Iu. G. SOURCES OF LEPTOSPIRAL INFECTION IN THE KONSTANTINOVO FOCUS IN MOSCOW PROVINCE. Zhur. Mikrobiol., Epidemiol. i Immunobiol. 29(1/2): 24-29, map. 1958. [From Biol. Abstr. 36(2), 1961.] WR 102: 24

Translated from Russian. In the Konstantinovo region leptospire carriers were not only discovered among northern voles but also among shrews, water rats, meadow voles and water shrews in 1954-56. It was established that small mammals are the basic source of leptospirosis in the Konstantinovo region of the Moscow province.--From auth. abstr.

Fenyuk, B. K. EXPERIENCE IN THE ERADICATION OF ENZOOTIC PLAGUE IN THE NORTH-WEST PART OF THE CASPIAN REGION OF THE USSR. Bull. World Health Organization 23(2-3): 263-273, 2 figs. 1960. [From Public Health Eng. Abstr. 41(3), 1961.] WR 102: 24

A history of plague control in the Caspian lowlands during 1924-56. Plague has long been enzootic to the area--the main rodent involved being the little sisel. Extermination campaigns during 1933 to 1941 were effective, but eradication cannot be expected.

Galton, Mildred M. (Communicable Disease Center, Chamblee, Ga.) THE EPIDEMIOLOGY OF LEPTOSPIROSIS IN THE UNITED STATES WITH SPECIAL REFERENCE TO WILD ANIMAL RESERVOIRS. Southwestern Vet. 13(1): 37-42. 1959. [From Biol. Abstr. 36(9), 1961.] WR 102: 24

Leptospirosis in wild animal species has been established. Little is known of the nature of leptospiral infection in these wild animals or their role as vectors. Certain environmental factors such as temperature of 22°C, moist neutral or slightly alkaline soil and water are known to favor the spread of leptospires. Cultural and/or serological studies on humans and cattle in the United States indicate that infection occurs in both with most of the serotypes found in wild mammals.--From auth. summ.

Gażuszka, J. THE PROBLEM OF TRICHOMONIASIS OF ANIMALS IN THE POLISH LITERATURE, IN THE YEARS 1936-1958. Wiad. Parazytol. 6(1): 53-65. 1960. [From Bibliog. Agr. 25(1), 1960.] WR 102: 24

In Polish with English summary.

Kauker, E., and K. Zettl. DER VERLAUF DER TOLLWUT IN DER BUNDESREPUBLIK IM JAHRE 1959. [RABIES IN THE GERMAN FEDERAL REPUBLIC DURING 1959.] Berl. Münch tierärztl. Wschr. 73: 166-171. 1960. [From abstr. in Vet. Bull. 31(2), 1961.] WR 102: 24

In German with English summary. "Rabies was found in 2,150 wild and domestic animals in 1959, compared with 1,569 in 1958, an increase of 37.6%. Foxes accounted for 65.6% of the cases. In Baden-Württemburg 34,000 foxes and 11,000 badgers were shot in the second half of 1959, to prevent the disease from spreading into the Black Forest." [A French version of this was published in Bull. Office Internat. des Epizooties 53: 1115-1117.]

Leiby, Paul D. (Colo. State Univ., Fort Collins.) INTESTINAL HELMINTHS OF SOME COLORADO MAMMALS. J. Parasitol. 47(2): 311. Apr. 1961. WR 102: 24

Parasites of 17 spp. of mammals.

Leikina, E. S. NATURAL FOCI OF INFECTION OF SOME HELMINTHIASES. Public Health Repts. 76(3): 263-272. Mar. 1961. [Translated from the Russian article from Med. Parazitol. i Parazitol. Bolezni 1957: 140-152. Mar.-Apr. 1957.] WR 102: 24

A review paper which stresses the etiology of trichinellosis. "Trichinellosis is considerably more widespread among wild animals than among domestic animals. Of the wild animals, wolves, foxes, polar foxes, raccoons, badgers, minks, bears, wild boars, lynxes, coypus, hedgehogs, moles, field mice, skunks, martens, squirrels, ermines, beavers, muskrats, weasels, lemmings, seals, walruses, lions, and tigers have now been recorded as hosts of trichinellae."

Malek, E. A., L. R. Ash, H. F. Lee, and M. D. Little. (Tulane Univ., New Orleans, La.) SCHISTOSOMIASIS IN LOUISIANA MAMMALS. J. Parasitol. 46 (5--sect. 2): 34. Oct. 1960. WR 102: 25

Title and abstract only. Heterobilharzia americana was found in 25 of 36 raccoons and 16 of 22 nutrias collected.

McLean, Donald M., Lachlan W. MacPherson, Selma J. Walker, and Gloria Funk. (Hosp. for Sick Children, Toronto, Canada.) POWASSAN VIRUS: SURVEYS OF HUMAN AND ANIMAL SERA. Am. J. Public Health 50(10): 1539-1544. 1960. [From Biol. Abstr. 36(6), 1961.] WR 102: 25

Powassan virus, a newly described group B arthropod-borne virus was 1st isolated in Sept. 1958 from the brain of a child dying of encephalitis who lived at Powassan, Ont. Neutralizing antibody was detected in sera from 4 [of] 13 chipmunks and one of 9 squirrels captured within 20 miles of the residence of the index [human] case. This indicates that squirrels and chipmunks are likely to be natural reservoirs of virus.--From auth. abstr.

Parnas, J., T. Dabrowski, K. Łazuga, A. Kośiak, and M. Paroszkiewicz. MICROBIOLOGICAL [RESEARCH] ON LEPTOSPIRA IN SMALL MAMMALS AND DOMESTIC ANIMALS IN THE TOMASZOW LUBELSKI DISTRICT (1956-57). Przeglad Epidemiol. (Warsaw) 12 (1): 29-34. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 25

In Polish with summaries in Russian and English. Of 2600 specimens of mammals examined 409 exhibited an agglutinate-lytic reaction with Leptospira. In particular small mammals, most frequently occurring: Microtus arvalis, M. ratticeps, Mus musculus and Arvicola terrestris proved to be reserves of Leptospira in the study area.

Wagner, E. D., and H. S. Burnett. (Coll. Med. Evangelists, Loma Linda, Calif.) THELAZIASIS IN CALIFORNIA, WITH A REPORT ON RESERVOIR HOSTS. J. Parasitol. 44(4--sect. 2): 35. Aug. 1958. WR 102: 25

Title and abstract only. Jack rabbit and domestic silver fox new reservoir hosts.

Zimmermann, W. J., E. D. Hubbard, and H. E. Biester. (Iowa State Coll., Ames.) STUDIES ON TRICHINIASIS IN IOWA WILDLIFE (1955-56 AND 1956-57 SEASONS). J. Parasitol. 45(1): 87-90, 1 fig. Feb. 1959. WR 102: 25

Trichinella spiralis was found in 7 spp. of wildlife, namely mink (4.5%), fox (8.5%), opossum (0.9%), raccoon (0.6%), striped skunk (2.5%), spotted skunk (2.2%), and coyote (4.8%).--From summ.

Zwierz, J., J. Durlakowa, K. Karmańska, J. Zwierzchowski, K. Łazuga, and A. Korczyńska. RESEARCH ON FAUNA IN FOCAL SPOTS OF THE LEPTOSPIROSIS EPIDEMIC IN THE TOMASZOW LUBELSKI DISTRICT. Medycyna Weterynaryjna (Warsaw) 14(11): 647-657. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 25

In Polish with summaries in Russian and English. Mass examination of rodents, domestic animals, and humans revealed that one of the chief reservoirs in Poland of Leptospirosa sejroe is Mus musculus spicylegus.

Zwierz, J., K. Karmańska, D. Konarska, E. Turkówna, and S. Scheller. RESEARCH ON FAUNA IN AREAS IRRIGATED WITH SEWER WATER TO DISCOVER CARRIERS OF LEPTOSPIROSA. Medycyna Weterynaryjna (Warsaw) 14(11): 658-661. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 25

In Polish with Russian and English summaries. Small mammals, especially Microtus arvalis, were established as carriers.

SHREWS, MOLES, BATS

Commissaris, Larry R. (Univ. Ariz., Tucson.) THE MEXICAN BIG-EARED BAT IN ARIZONA. J. Mammal. 42(1): 61-65, 1 fig. Feb. 1961. WR 102: 26

"Observations made during the summer of 1958 have added to the knowledge of the habits and ecology of Plecotus phyllotis.... The majority [of the 29 specimens] were taken in association with Mexican pine-oak woodland, although a few were taken from other habitats that were either similar to or in geographical proximity to pine-oak woodland. Those...taken in mist nets were active well after dark and during fair weather. Observations...indicate that they are swift, agile flyers."--From auth. abstr.

Dubois, Georges. CONTRIBUTION Á L'ÉTUDE DES TRÉMATODES DE CHIROPTÉRES. REVISION DU SOUS-GENERE PROSTHODENDRIUM DOLLFUS 1931 ET DES GENRES LECITHODENDRIUM LOOSS 1896 ET PYCNOPORUS LOOSS 1899. [CONTRIBUTION TO THE STUDY OF THE TREMATODES OF BATS. REVISION OF THE SUBGENUS PROSTHODENDRIUM DOLLFUS AND THE GENERA LECITHODENDRIUM LOOSS 1896 AND PYCNOPORUS LOOSS 1899.] Rev. Suisse Zool. 67(1): 1-80, illus. 1960. [From Biol. Abstr. 36(7), 1961.] WR 102: 26

[In French.] Study is based on Swiss fauna only. Sp. diagnoses and keys are given for Prosthodendrium (23 spp.), Lecithodendrium (9 spp.), and Pycnoporus (7 spp.).--From abstr. by R. M. Chew.

Furmaga, St. INTERNAL PARASITES OF MOLES (TALPA EUROPEA L.) IN THE LUBLIN DISTRICT. Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomosci Parazytol. (Warsaw) 4(5-6): 695-696. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 26

Text in Polish and English. The occurrence of 6 species of parasites was established. The total percentage of infestation is small (35%), of which nematoda forms 28%.

Hanuš, Karel. (ČSAZV, Prague, Czechoslovakia.) K OTÁZCE THERMOREGULACE NETOPÝRŮ. [ON THE PROBLEM OF THERMOREGULATION IN BATS.] Vest. Cesk. Spol. Zool. 23(4): 307-327. 1959. [From Biol. Abstr. 36(2), 1961.] WR 102: 26

[In Czech] with English summ. The following factors were considered: the thermoregulatory ability of bats in the winter period; the course of awakening from the sleep-lethargy; tolerance to higher temperatures of the surroundings; and metabolic and thermoregulation differences between different species. Myotis myotis, Myotis nattereri, Plecotus auritus, and Barbastella barbastellus were studied.--From abstr. by MDS.

Heydemann, Berndt. ZUR ÖKOLOGIE VON SOREX ARANEUS L. UND SOREX MINUTUS L. [ON THE ECOLOGY OF SOREX ARANEUS L. AND SOREX MINUTUS L.] Z. Saugetierk. (Berlin) 25(1-2): 24-29. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 26

[In German.]

Mezhzherin, V. A. [POPULATION DENSITY OF SOREX ARANEUS L. AND ITS CHANGES OVER 17 YEARS.] Zool. Zhur. 39(7): 1080-1087. June 1960. [From J. Mammal. 42(1), 1961.] WR 102: 26

In Russian with English summary.

Muir, Ted J., and Emmett Polder. (Loras Coll., Dubuque, Iowa.) NOTES ON HIBERNATING BATS IN DUBUQUE COUNTY CAVES. Proc. Iowa Acad. Sci. 67: 602-606. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 26

In the fall and winter of 1958 and 1959 four species of bats, Myotis lucifugus, Myotis sodalis, Eptesicus fuscus, and Pipistrellus subflavus, were found in five Dubuque County caves. M. sodalis was a new species record for Iowa. Migration of bats into the caves began when the minimum temperature dropped to 24°F. The greatest increase in cave population occurred when the daytime high temperature was below freezing and nighttime lows ranged from 13°F. to 1°F. Midwinter copulation of E. fuscus was observed, and drinking of condensed water on cave ceilings by M. lucifugus was noted. No intercave movements occurred but intracave movements did occur when cave temperature reached 43°F.--Authors.

SHREWS, MOLES, BATS--Continued

Ross, Anthony. (Univ. Ariz., Tucson.) NOTES ON TRICHOBIUS CORYNORHINI ON HIBERNATING BATS (DIPTERA: STREBLIDAE). Wasmann J. Biol. 18(2): 271-272. Fall 1960. WR 102: 27

Unusual situation of tropical flies found on six hibernating western big-eared bats (Plecotus townsendii). Temperature 2.0-6.0°C.

Ross, Anthony. (Univ. Ariz., Tucson.) NOTES ON FOOD HABITS OF BATS. J. Mammal. 42(1): 66-71. Feb. 1961. WR 102: 27

Observations were made on the diet of 5 insectivorous bats, Lasiurus borealis, Euderma maculata, Eumops perotis, Tadarida brasiliensis, and Antrozous pallidus. For each species, percentages of insect remains obtained from guano, stomach contents, and fragments found under the night roost are reported. Methods of obtaining insect samples and limits on the level of taxonomic determinations are discussed.--From auth. abstr.

Sołtys, A. HELMINTOFAUNA OF BATS (CHIROPTERA) FROM LUBLIN DISTRICT. Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomosci Parazytol. (Warsaw) 4(5-6): 693-694. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 27

Text in Polish and English. Eleven species of bats were examined. Total infestation was 79% (nematoda 17%, trematoda 74%, tapeworms 8%).

Sołtys, A. (Wyższa Szkoła Rolnicza, Lublin, Poland.) THE HELMINTH FAUNA OF BATS (CHIROPTERA) OF LUBLIN PALATINATE. Acta Parasitol. Polonica 7(23/35): 599-613. 1959. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 27

In English with Polish summary. Of 161 bats examined belonging to 11 spp. (chiefly Nyctalus nyctalus, Eptesicus serotinus, and Myotis daubentoni), 79% were infected with helminths.

Sonenshine, Daniel E., and George Anastos. (Univ. Akron, Akron, Ohio.) OBSERVATIONS ON THE LIFE HISTORY OF THE BAT TICK ORNITHODOROS KELLEYI (ACARINA: ARGASIDAE). J. Parasitol. 46(4): 449-454. Aug. 1960. WR 102: 27

Summary: Data are given on the distribution and natural and experimental hosts for the argasid tick Ornithodorus kelleyi found in bat retreats in Maryland. Observations are presented on feeding habits, molting habits, copulation, oviposition and hatching.

RABBITS AND PIKAS

Bider, J. Roger. (Univ. Texas, Austin.) AN ECOLOGICAL STUDY OF THE HARE LEPUS AMERICANUS. Canadian J. Zool. 39(1): 81-103, 13 figs. Feb. 1961. WR 102: 27

Based upon a one-year study in the Quebec Laurentians. Conclusions reached are: 1) vegetation structure is important in determining the ranges of hares; 2) climatic and physical factors modify movements within ranges; 3) ♀♀ are consistent in their choice of browse and cover areas whereas ♂♂ are not; 4) daily ranges of ♂♂ and ♀♀ in summer and winter are about 4 acres; 5) modifications of daily ranges are decreases when ♀♀ care for young and increases when ♂♂ move from one ♀'s range to another; 6) the total ranges of ♂♂ are ultimately determined by the sum of the ranges of the ♀ hares which they court.--From auth. abstr.

Brown, L. N. (Univ. Mo., Columbia.) EXCRETED DYES USED TO DETERMINE MOVEMENTS OF COTTONTAIL RABBITS. J. Wildl. Mgmt. 25(2): 199-202, 2 figs. Apr. 1961. WR 102: 27

Five dyes when placed subcutaneously would color the urine of cottontail rabbits from 4-7 days. Field tests indicated that excreted dyes are useful in revealing the movements of cottontails when snow covers the ground. The locations of colored feces and urine depositions indicate centers of activity in daily movement patterns of each rabbit.--From summ.

Calaby, J. H., C. D. Gooding, and A. R. Tomlinson. (Wildl. Survey Sec., C.S.I.R.O., Canberra, Australia.) MYXOMATOSIS IN WESTERN AUSTRALIA. C.S.I.R.O. Wildl. Res. 5(2): 89-101, 1 fig. Dec. 1960. WR 102: 28

Since its release in Western Australia in 1951, myxomatosis has not been a significant factor in the control of rabbits, except for 2 extensive epidemics. Because large permanent streams are absent and summer drought is normal the important summer breeding myxomatosis vectors occur only in small numbers. The campaign to spread the disease, results, and the vectors are described.--From auth. summ.

Ceccarelli, Aldo. RILIEVI E RICERCHE SPERIMENTALI SULLA MIXOMATOSI INFETTIVA DEL CONIGLIO IN TOSCANA. [REMARKS AND EXPERIMENTAL RESEARCH ON INFECTIOUS MYXOMATOSIS OF RABBITS IN TUSCANY.] Zooprofilassi 12(2): 79-88, illus. 1957. [From Biol. Abstr. 36(3), 1961.] WR 102: 28

[In Italian] with French and English summaries.

Davis, Charles A. MIDWINTER FEEDING HABITS OF THE COTTONTAIL RABBIT ON THE GENE HOWE WILDLIFE MANAGEMENT AREA. M.S. thesis, Texas A & M Coll. 1958. [From list by Kinsinger & Eckert, J. Range Mgmt 14(1), 1961.] WR 102: 28

Douglas, G. W., B. R. G. Woodfield, and F. G. Tighe. 1080 POISON / A MAJOR WEAPON IN RABBIT CONTROL. J. Dept. Agr. (Victoria) 57(5): 279, 281-283, 323-325, 327, 10 figs. May 1959. WR 102: 28

A review of the widespread use of 1080 for pest control in Victoria, Tasmania, Western Australia and New Zealand. Together with continuing benefits from myxomatosis, and use of all other methods of rabbit control, 1080 is a major weapon for use against the rabbit. Details for its safe use are outlined.

Dudzinski, M. L., and R. Mykytowycz. (Div. Math. Stat., C.S.I.R.O., Canberra, Australia.) ANALYSIS OF WEIGHTS AND GROWTH RATES OF AN EXPERIMENTAL COLONY OF WILD RABBITS, ORYCTOLAGUS CUNICULUS (L.). C.S.I.R.O. Wildl. Res. 5(2): 102-115, 7 figs. Dec. 1960. WR 102: 28

Different seasonal conditions were the cause of significant changes in weights and growth rates of rabbits. Animals born at the beginning of the breeding season were heaviest and those born at the end were lightest. In some cases the difference in weights of juveniles at corresponding ages exceeded 30%. Only dominant and high-ranking ?? bred early in the season. A relation was found between rainfall and the seasonal factors affecting growth.--From auth. summ.

Griffiths, M. E., J. H. Calaby, and D. L. McIntosh. (Wildl. Survey Sec., C.S.I.R.O., Canberra.) THE STRESS SYNDROME IN THE RABBIT. C.S.I.R.O. Wildl. Res. 5(2): 134-148, 11 figs. Dec. 1960. WR 102: 28

Growth, haemoglobin levels, blood sugar levels, and blood urea levels are unchanged by a 20-day treatment with cold for 6-7 hours daily. Rabbits conditioned to cold in this way can survive a period of -12°C without food or water, while unconditioned rabbits cannot. Rabbits from dense populations are as resistant to physical stress as rabbits from populations of moderate density, provided nutrition is adequate. Lack of food leads to loss of resistance to physical stress. The biochemical and morphological findings are discussed in relation to current theories of stress and regulation of animal numbers.--From summ.

Haugen, Arnold O. (Iowa Coop. Wildl. Res. Unit, Ames, Iowa.) COTTONTAILS WITH "HORNS." Proc. Iowa Acad. Sci. 67: 610-615, 4 figs. 27 Dec. 1960. WR 102: 28

From abstract. Published information on papillomas, commonly called horns, on Sylvilagus floridanus in Iowa dates back to 1907. The malady seems to be limited almost entirely to the western half of the state.

Leski, R., and M. Sweda. WYNIKI PIECIOLETNICH (1950-1955) DOŚWIADCZEŃ NAD ŚRODKAMI ODSTRASZAJACYMI ZAJACE. [FIVE YEARS' INVESTIGATION WITH CHEMICAL HARE REPELLERS.] Prace Inst. Sadown. w Skiern. 3: 51-82. 1958. [From Biol. Abstr. 36(3), 1961.] WR 102: 29

[In Polish] with English and Russian summaries. During years or in areas of moderate tree injury, repellent mixtures containing naphthalene, BHC or colophony as the active agent, were found to give more or less similar results and sufficient protection against hares.

Lord, Rexford D., Jr. (Ill. Nat. Hist. Survey, Urbana.) MAGNITUDES OF REPRODUCTION IN COTTONTAIL RABBITS. J. Wildl. Mgmt. 25(1): 28-33, 3 figs. Jan. 1961. WR 102: 29

Monthly samples of cottontail rabbits were collected during the breeding seasons of 1957, 1958, and 1959. The rabbits were analyzed for age, prevalence of pregnancy, average litter size, and general fertility rate. Rabbits from southern Ill. showed a significantly lower average litter size than those of central Ill. Average litter size increased with age. Juvenile rabbits had the lowest prevalence of pregnancy and rabbits in the 1-year age class the highest, while those in the 2- and 3-year age classes showed successively lower prevalences of pregnancy.--From summ.

Lord, Rexford D., Jr. (Ill. Nat. Hist. Survey, Urbana.) MORTALITY RATES OF COTTONTAIL RABBITS. J. Wildl. Mgmt. 25(1): 33-40, 5 figs. Jan. 1961. WR 102: 29

Analysis of the relative survival of rabbits born during different months of the breeding season showed that rabbits born late in the season had a higher probability of surviving to 12 months of age than rabbits born early in the season.--From summ.

Lord, Rexford D., Jr. (Ill. Nat. Hist. Survey, Urbana.) POTENTIAL LIFE SPAN OF COTTONTAILS. J. Mammal. 42(1): 99. Feb. 1961. WR 102: 29

"The potential life span of the cottontail is at least 10 years."

Lord, Rexford D., Jr. (Ill. Nat. Hist. Survey, Urbana.) SEASONAL CHANGES IN ROADSIDE ACTIVITY OF COTTONTAILS. J. Wildl. Mgmt. 25(2): 206-209, 4 figs. Apr. 1961. WR 102: 29

"The results indicated that rabbits began their nightly activity at about 5:00 p.m. and ceased at about 7:00 a.m., regardless of varying light conditions between winter and summer. There was a tendency in summer for activity to begin later and more slowly and to continue later into the morning, but this tendency was slight in comparison to the general trend."

Lyons, E. T., M. F. Hansen, and O. W. Tiemeier. (Colo. State Univ., Fort Collins.) HELMINTH PARASITES OF BLACK-TAILED JACK RABBIT IN SOUTHWESTERN KANSAS. Trans. Kansas Acad. Sci. 63(3): 135-140. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 29

One hundred thirty black-tailed jack rabbits (Lepus californicus melanotis) collected in southwestern Kansas were examined for helminth parasites. The 3 helminths with the highest rate of infection were Passalurus nonanulatus (pinworm), Raillietina spp. (tapeworm), and Micipsella brevicauda (filariid). Six other genera of helminths are reported as occurring in hares in Kansas. Passalurus nonanulatus showed the highest rate during the winter months with a significantly greater number of adult than juvenile hares being infected. Raillientina spp. showed the highest rate in the summer months; there was no significant difference between the numbers of infected adult and juvenile hares.--Authors.

Martinson, R. K. AGE AND SEX CHARACTERISTICS OF A SWAMP RABBIT (SYLVILAGUS AQUATICUS) POPULATION. M.S. thesis, Univ. Mo. 81 p. 1961. WR 102: 29

Myasnikov, Yu. A., and M. I. Tsareva. THE EPIDEMIOLOGICAL SIGNIFICANCE OF THE HARE IN TULARAEMIA. Zhur. Mikrobiol. Epidemiol. i Immunobiol. 30(2): 108-113. 1959. [From Biol. Abstr. 36(4), 1961.] WR 102: 30

Translated from Russian. Tularaemia caused by hares occurs in 30 regions, oblasts and autonomous republics of the R.S.F.S.R. although registration is by no means complete. Different causes for infection due to common and arctic hares are observed and explained by the ecology of the 2 species. The common hare is a source of group infection in the Kaliningrad oblast and sometimes governs the incidence of tularaemia. In the central oblasts of the R.S.F.S.R. (Moscow and Tul'sk) infection from the common hare is sporadic.--From auth. abstr.

Northern Ireland. THE EXTERMINATION OF RABBITS. Northern Ireland Min. Agr., L. 93. 6 p. June 1960. [From Bibliog. Agr. 25(1), 1960.] WR 102: 30

"Pests of crops."

Rowley, Ian. (Wildl. Survey Sec., C.S.I.R.O., Canberra, Australia.) THE EFFECT OF CONCENTRATION ON THE INGESTION OF "1080"-POISONED BAITS BY THE RABBIT. C.S.I.R.O. Wildl. Res. 5(2): 126-133, 4 figs. Dec. 1960. WR 102: 30

Experimental feeding of wild rabbits, Oryctolagus cuniculus, with "1080"-poisoned baits, showed no evidence of poison-repellency. Reduction of food intake was due to the toxic symptoms; the delay before this occurred varied with concentration. In concentrations between 0.02% and 0.2% the intake of poisoned bait and the latent period were relatively constant. Thus the strength for use with carrot might be reduced to 0.02% since consumption would be the same. This would reduce the hazard to stock and fauna. With oats it appears that poison at the present field strength is about optimal since rabbits eat much less of that material in a single feed.--Mary F. Myers.

Rowley, Ian. (Wildl. Survey Sec., C.S.I.R.O., Canberra, Australia.) THE SENSE OF SMELL AND FOOD-FINDING IN THE RABBIT. A STUDY OF LURES FOR RABBIT-POISONING. C.S.I.R.O. Wildl. Res. 5(2): 116-125, 2 figs., 1 pl. Dec. 1960. WR 102: 30

Raspberry essence, an extensively used rabbit lure, was tested under various conditions, and in no case was it found to have significant effect in attracting rabbits to bait, nor did the rabbits show any preference for "lured" oats over "unlured" oats. It is suggested that the sense of smell plays a small part in the food-finding of the rabbit and the addition of a lure to bait when poisoning rabbits is not likely to improve the technique.--From auth. summ.

Shennan, J. P. "JOURNAL'S" 50 YEARS' WAR ON ANIMAL PESTS. New Zealand J. Agr. 101(2): 145, 147, 149, 151, 153, 155, 157, 159. 15 Aug. 1960. [From Bibliog. Agr. 25(2), 1961.] WR 102: 30

Rabbits and other types of wildlife.

Wight, Howard M., and Clinton H. Conaway. (Mo. Conserv. Comm., Columbia.) WEATHER INFLUENCES ON THE ONSET OF BREEDING IN MISSOURI COTTONTAILS. J. Wildl. Mgmt. 25(1): 87-89, 2 figs, Jan. 1961. WR 102: 30

"Our data indicate that although photoperiod may be the basic mechanism controlling the timing of the sexual cycle in the cottontail rabbit, severe weather can strongly influence the onset of breeding."

Willinger, Hermann. BRUCELLOSE BEI FELDHASEN IN OSTERREICH. [BRUCELLOSIS IN HARES IN AUSTRIA.] Wiener Tierarztl. Monatsschr. 47(Suppl.): 661-669. 1960. [From Biol. Abstr. 36(4), 1961.] WR 102: 30

[In German] with English, French and Italian summaries. Heretofore brucellosis of the hare has been observed in six European countries (Denmark, Germany, France, Romania, Switzerland, Czechoslovakia). In Austria, the disease made its appearance in the years 1957 to 1959.--From auth. abstr.

RODENTS--MISCELLANEOUS

Abbott, Herschel G. (Univ. Mass., Amherst.) WHITE PINE SEED CONSUMPTION BY SMALL MAMMALS. J. Forestry 59(3): 197-201, 3 figs. Mar. 1961. WR 102: 31
Laboratory experiments indicated that the average daily consumption of pine seed by small animals was: 109 seeds for white-footed mice, 97 for red-back voles, and 139 for meadow voles. Field experiments during Oct.-Dec. indicated that these mammals destroy daily even more: 260 seeds/white-footed mouse and 232 seeds/red-back vole. Presumably the mammals store seeds not consumed.

Bernard, J. NOTE SUR LA REPRODUCTION EN HIVER DU CAMPAGNOL DES CHAMPS, MICROTUS ARVALIS (PALL.). [NOTE UPON THE REPRODUCTION IN WINTER OF THE FIELD VOLE, MICROTUS ARVALIS (PALL.).] Z. Säugetierk. (Berlin) 25(1-2): 91-94. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 31

Canaris, Albert G. (Oreg. State Coll., Corvallis.) A NOTE ON THE DISTRIBUTION OF THE PORCUPINE LOUSE EUTRICHOPHILUS SETOSUS (GIEBEL) (MALLOPHAGA). J. Parasitol. 46(4): 481. Aug. 1960. WR 102: 31
First Wash. and Oreg. records. Previously the porcupine louse had been found in Alaska, Calif., Minn., Mont., Nebr., N. H., N. Mex., and Wis.

Cayford, J. H., and R. A. Haig. (Canada Dept. Forestry, Winnipeg, Manitoba.) MOUSE DAMAGE TO FOREST PLANTATIONS IN SOUTHEASTERN MANITOBA. J. Forestry 59 (2): 124-125, 1 fig. Feb. 1961. WR 102: 31
In a survey of field mouse (Microtus pennsylvanicus) damage to 4-13 year-old pine plantations, it was found that Scotch pine was the most susceptible to damage, jack pine (Pinus banksiana) was intermediate, and red pine (Pinus resinosa) and white spurce (Picea glauca) were undamaged.

Chew, R. M., and B. B. Butterworth. (Univ. S. Calif., Los Angeles 7.) GROWTH AND DEVELOPMENT OF MERRIAM'S KANGAROO RAT, DIPODOMYS MERRIAMI. Growth (Philadelphia) 23: 75-95. June 1959. [From J. Mammal. 42(1), 1961.] WR 102: 31

Crawford, C. MEADOW MOUSE CONTROL AND RABBIT REPELLENTS. Idaho State Hort. Soc. Trans. 65: 42-46. 1959. [From Bibliog. Agr. 25(3), 1961.] WR 102: 31

Czapski, Z. FAUNA OF PARASITIC WORMS IN THE ALIMENTARY CANAL OF BRINDLED DORMOUSE CITELLUS CITELLUS L. (PROVISIONAL REPORT). Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomosci Parazytol. (Warsaw) 4(5-6): 697-698. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 31
Text in English and German. A large percentage of infestation was found (88%). The species most frequently occurring is Moniliformis moniliformis, discovered in 88% of specimens examined. The connection between infestation and the sex of the dormouse was established, and the differing set of parasites for C. citellus and C. suslica.

Eads, Richard B. (State Dept. Health, Austin, Texas.) TWO NEW FLEAS (HYSTRICHOPSYLLIDAE) FROM THE KANGAROO RAT AND POCKET MOUSE. J. Parasitol. 46 (2): 213-218, 2 pls. Apr. 1960. WR 102: 31

Farrand, Richard L. COLD ACCLIMATIZATION IN THE GOLDEN HAMSTER. State Univ. Iowa Studies Nat. Hist. 20: 1-29. 1959. [From J. Mammal. 42(1), 1961.] WR 102: 31

Fisler, George F. (Univ. Calif., Berkeley.) BEHAVIOR OF SALT-MARSH MICROTUS DURING WINTER HIGH TIDES. J. Mammal. 42(1): 37-43. Feb. 1961. WR 102: 31
The populations of Microtus californicus in the salt marshes of the San Francisco Bay region are subjected to extremely high tides (winter) which submerge most vegetation and force mice from cover. "The mice are in...danger from both drowning and avian predation at this time. During...high tides, mice hide in whatever emergent vegetation remains, swimming freely on the water surface as little as possible. However, swimming and diving abilities are well developed.... Microtus usually remain on their home ranges during and after...high tides, and it is concluded that only the rare, combined effects of wind, rain, and the several factors that produce high tides will displace a population, or reduce its size, to any great extent."--From auth. abstr.

Foster, J. Bristol, and Randolph L. Peterson. (Univ. B. C., Vancouver.) AGE VARIATION IN PHENACOMYS. J. Mammal. 42(1): 44-53, 7 figs. Feb. 1961. WR 102: 32

"Attempts were made to ascertain the age of a wild-caught Phenacomys ungava ...by comparing its skull with those of a series of known-age phenacomys. Such comparisons are not valid, since the laboratory voles do not develop exactly as do those in the wild.... The rostrum of phenacomys continues to grow throughout the first year of its life and...this may be used in approximating its age.... Degree of extension of teeth is also quite useful in calculating age."--From auth. abstr.

Frandsen, John C., and A. W. Grundmann. (Univ. Utah, Salt Lake City.) PRELIMINARY REPORT ON THE HAEMOPARASITES OF RODENTS OF LAKE BONNEVILLE BASIN, UTAH. J. Parasitol. 45(4--sect. 2): 33. Aug. 1959. WR 102: 32

Title and abstract only. Haemoparasites of Eutamias minimus, Peromyscus maniculatus, P. truei, and Perognathus parvus.

Freeman, Reino S. (Ontario Res. Foundation, Toronto, Canada.) ON THE EPIZOOTIOLOGY OF CAPILLARIA HEPATICA (BANCROFT, 1893) IN ALGONQUIN PARK, ONTARIO. J. Parasitol. 44(4--sect. 2): 33. Aug. 1958. WR 102: 32

Title and abstract only. In Peromyscus maniculatus.

Frydendall, Merrill. SEASONAL MOVEMENT AND ACTIVITY OF SMALL RODENTS IN FOUR DIFFERENT ECOLOGICAL AREAS. M.S. thesis, Fort Hays Kansas State Coll. 1960. [From list by Kinsinger & Eckert, J. Range Mgmt. 14(1), 1961.] WR 102: 32

Fujimoto, Keisuke. DIURNAL ACTIVITY OF MICE; EFFECT OF THE SOCIAL RELATIONSHIP OF MICE ON THEIR DIURNAL ACTIVITY. Seiri Seitai (Japan) 5(3/4): 97-103, 4 figs. 1953. [From Tech. Transl. 5(5), 1961.] Translated by William Himmel, 2 Feb. 1960. 13 p. (4 figs. omitted). No. 2-4-60. Order from Photoduplication Service, Library of Congress, Washington 25, D. C., or the John Crerar Library, 86 East Randolph St., Chicago 1, Ill. at $2.40 for a microfilm copy or $3.30 for a photocopy. WR 102: 32

Getz, Lowell L. (Univ. Mich., Ann Arbor.) HOME RANGES, TERRITORIALITY, AND MOVEMENT OF THE MEADOW VOLE. J. Mammal. 42(1): 24-36, 4 figs. Feb. 1961. WR 102: 32

Abstract: Two populations of the meadow vole, Microtus pennsylvanicus, one inhabiting an abandoned field, the other a grass-sedge marsh, were live-trapped at monthly intervals from September 1957 through September 1958. The mean monthly home range size of the males was larger than that of the females in both areas. The home ranges of the females in the marsh were larger than those in the old field; there was no difference between the home range sizes of the males in the two areas. The home range size in the marsh varied inversely with population density. Environmental conditions in the old field, particularly low winter temperatures, exerted more influence upon home range size than did population density. The data indicate that M. pennsylvanicus displays territorial behavior. The degree of such behavior does not appear to be influenced by population density or environmental conditions. About 20 per cent of the population shifted their home ranges each month. A greater percentage of males moved than did females. The young voles displayed only a slightly greater tendency to move than did the adults.

Gladkina, T. S., and I. Ia. Poliakov. MEANS OF LIQUIDATION OF OUTBREAKS OF RODENTS. Zashch. Rast. ot Vred. i Bolezei 1960(5): 25-28. May 1960. [From Bibliog. Agr. 25(1), 1961.] WR 102: 32

"In Russian. Baits treated with zinc phosphide."

Golley, Frank B. (Univ. Ga., Athens.) TRAP AND BAIT PREFERENCES OF COTTON RATS. J. Mammal. 42(1): 106-107. Feb. 1961. WR 102: 32

No significant differences were noted in captures by (1) type of trap used or (2) type of bait used. There was no significant difference between traps baited with DDT-treated or untreated peanut butter.

Grulich, I. DIE FELDMAUS ALS SCHÄDLING VON OBSTBAUMBESTÄNDEN. [THE FIELD MOUSE AS A PEST OF ORCHARDS.] Ceskoslov. Akad. Zemědělí. Věd. Sborn. Rostlinná Vyroba 6(2): 253-260. Feb. 1960. [From Bibliog. Agr. 24(10), 1960.] WR 102: 33
In Czech with German summary.

Grundmann, Albert W., and John C. Frandsen. (Univ. Utah, Salt Lake City.) DEFINITIVE HOST RELATIONSHIPS OF THE HELMINTH PARASITES OF THE DEER MOUSE, PEROMYSCUS MANICULATUS, IN THE BONNEVILLE BASIN OF UTAH. J. Parasitol. 46(6): 673-677. Dec. 1960. WR 102: 33
"The deer mouse, with its high population and universal distribution, must be considered responsible for distributing its parasites to all habitats and localities, and where parasitic species are not host specific, of responsibility for maintaining and spreading them to isolated and restricted populations of other susceptible rodent species."--From summ.

Hubbard, C. Andresen. (Tigard 23, Oreg.) FLEAS FROM THE KANGAROO RATS OF NORTHERN CALIFORNIA. Entomol. News 72(5): 133-139. May 1961. WR 102: 33

Kieżczewski, B. RESEARCH ON PARASITE ACARINA OF SMALL FOREST RODENTS. Wiadomosci Parazytol. (Warsaw) 4(3): 207-210. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 33
In Polish with Russian and English summaries. The work gives a list of parasite species of the Acarina order, excluding ticks from nests or from specimens of 6 common forest rodents. Typical parasite forms (14 species) and several non-parasitic soil forms were differentiated.

Kruidenier, F. J., and K. N. Mehra. (Zool. Dept., Univ. Ill., Urbana.) ASPICULURIS (NEMATODA: OXYURIDAE) FROM THE WOOD RATS OF THE GRAND CANYON NATIONAL PARK, ARIZONA. J. Parasitol. 44(4--sect. 2): 33. Aug. 1958. WR 102: 33
Title and abstract only. Neotoma lepida, N. stephensi, and N. cinerea were infected hosts.

Kulicke, H. WINTERVERMEHRUNG VON RÖTELMAUS (CLETHRIONOMYS GLAREOLUS), ERDMAUS (MICROTUS AGRESTIS) UND GELBHALSMAUS (APODEMUS FLAVICOLLIS). [WINTER-INCREASE OF THE BANK VOLE (CLETHRIONOMYS GLAREOLUS), THE SHORT-TAILED VOLE (MICROTUS AGRESTIS) AND THE YELLOW-NECKED MOUSE (APODEMUS FLAVICOLLIS). Z. Säugetierk. (Berlin) 25(1-2): 89-91. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 33
[In German.]

Lavrova, M. Y., and D. A. Andreeva. [VOLES AS MAIN AND SECONDARY CARRIERS OF LEPTOSPIRAE (BASED ON THE DATA OF OBSERVATIONS ON TAGGED ANIMALS).] Zool. Zhur. 39(4): 608-615. Apr. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 33
[In Russian (?)]

Lavrova, M. Y., E. V. Prokhorova, and L. V. Lust. [SOME FEATURES OF THE BIOLOGY OF MICROTUS OBCONOMUS PALL. AND THE COURSE OF LEPTOSPIROSIS EPIZOOTIC AMONG THE LATTER IN THE WESTERN PART OF THE MOSCOW REGION.] Byull. Moscow Obshch. Ispyt. Prirody, Biol. 65(2): 13-24. Mar.-Apr. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 33
In Russian with English summary.

Layne, James N. THE GROWTH AND DEVELOPMENT OF YOUNG GOLDEN MICE, OCHROTOMYS NUTTALLI. Quart. J. Fla. Acad. Sci. 23(1): 36-58. Mar. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 33

Layne, James N., and James V. Griffo, Jr. (Univ. Fla., Gainesville.) INCIDENCE OF CAPILLARIA HEPATICA IN POPULATIONS OF THE FLORIDA DEER MOUSE, PEROMYSCUS FLORIDANUS. J. Parasitol. 47(1): 31-37. Feb. 1961. WR 102: 33
"The incidence of C. hepatica infections in a total of 723 Florida deer mice...collected from a number of localities and five major habitat types was 2.9 percent."--From summ.

Levine, Norman D., and Virginia Ivens. (Univ. Ill., Urbana.) EIMERIA AND TYZZERIA (PROTOZOA: EIMERIIDAE) FROM DEERMICE (PEROMYSCUS SPP.) IN ILLINOIS. J. Parasitol. 46(2): 207-212, 5 figs. Apr. 1960. WR 102: 34

In a survey of coccidea of deermice in cent. Ill., Eimeria delicata was found in 2 of 9 Peromyscus maniculatus, E. roudabushi in 1 of 7 P. leucopus, E. arizonensis in 1 P. maniculatus and 2 P. leucopus, and Tyzzeria peromysci was found in 2 P. maniculatus and 1 P. leucopus.--From summ.

Marsh, Rex E., and Lloyd F. Plesse. (Bur. Rodent & Weed Control & Plant Inspection, Calif. Dept. Agr., Sacramento.) SEMIPERMANENT ANTICOAGULANT BAITS. The Bulletin (Calif. Dept. Agr.) 49(3): 195-197, 4 figs. July-Sept. 1960. WR 102: 34

"The incorporation of anticoagulant grain baits into melted paraffin...has solved the problem of bait spoilage through moulding in areas of high humidity or excessive moisture.... Results of anticoagulant paraffin bait blocks demonstrate satisfactory control of Norway and black rats, meadow mice, house mice, gophers and wood rats under conditions of excessive moisture."

Marston, Richard B., and Odell Julander. (Central States Forest Exp. Sta., Columbus, Ohio.) PLANT COVER REDUCTIONS BY POCKET GOPHERS FOLLOWING EXPERIMENTAL REMOVAL OF ASPEN FROM A WATERSHED AREA IN UTAH. J. Forestry 59(2): 100-102, 1 fig. Feb. 1961. WR 102: 34

In one study area, all of the aspen were removed in 1947. After a survey of the treated and untreated areas in 1948, comparisons of the average foliage ground cover by major groups and species were made at biennial intervals from 1949-1957. The proportions in 1957 on the untreated area were: 5.76% grasses, 26.65% perennial forbs, 2.15% annual forbs, and 10.76% woody plants. On the treated area, the proportions were: 4.05%, 11.35%, 5.45%, and 0.0% respectively. The pocket gopher population in 1958 on the treated area (based on mound counts) was double that of the untreated area. The trend in vegetation and soil cover on the treated area indicates that an unsatisfactory watershed condition may be developing even though livestock has been excluded from the area. Further research is needed on this problem of rodent damage.

Mehl, S. DAS AUFTRETEN SCHÄDLICHER KLEINER SÄUGETIERER IN MITTEL- UND SÜDDEUTSCHLAND IM JAHRE 1959. NEUE METHODEN, SIE ZU BEKAMPFEN. [THE DESTRUCTIVE BEHAVIOR OF SMALL MAMMALS IN MIDDLE AND SOUTH GERMANY IN 1959. NEW METHODS OF CONTROL.] Desinfekt. U Gesundheitsw. 52(10): 148-152. Oct. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 34

"Mice as plant pest."

Mohlhenrich, John S. (Hawaii Natl. Park, Maui.) DISTRIBUTION AND ECOLOGY OF THE HISPID AND LEAST COTTON RATS IN NEW MEXICO. J. Mammal. 42(1): 13-24, 3 figs. Feb. 1961. WR 102: 34

Populations of cotton rats, Sigmodon hispidus and S. minimus, were located in N. Mex. with the objective of determining distributional limits and ecological preferences of the animals. Seven hundred thirty specimens were taken from 121 populations. Neither species seems to occur regularly where the mean annual temperature is less than 55°F or growing season less than 180 days. They have similar ecological preferences but where they occur in the same area, S. minimus extends to greater altitudes than S. hispidus. Both may have extended their ranges northward in recent years.--From auth. summ.

Molnar, Gy. EXPERIMENTS IN FIELD MICE CONTROL. Gödöllö. Agrartudo. Egyetem. Mezögazdasägtudo. Kar. Közlem. 1959: 17-26. 1959. [From Bibliog. Agr. 25(1), 1961.] WR 102: 34

In Hungarian with German summary.

Pearson, Oliver P. (Univ. Calif., Berkeley.) THE OXYGEN CONSUMPTION AND BIOENERGETICS OF HARVEST MICE. Physiol. Zool. 33(2): 152-160. Apr. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 34

Pielowski, Z., and A. Wasilewski. HASELMÄUSE IN VOGELNISTKÄSTEN. [DORMICE IN BIRD NEST-BOXES.] Z. Säugetierk. (Berlin) 25(1-2): 74-80. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 34

[In German.]

Pucek, Z. SICISTA BETULINA PALL. A RARE REPRESENTATIVE OF POLISH FAUNA. Przeglad Zool. (Wrocław) 2(3): 168-182, 8 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 35

In Polish with English summary. Short sketch containing data on systematics and evolution, also the geographical distribution and the biology of Sicista betulina (its way of life, the biotopes in which it lives, food, life cycle).

Rall', Yu., and V. N. Fedorov. (Caucasian & Transcaucasian Anti-Plague Res. Inst., Stavropol', USSR.) THE PHYSIOLOGICAL EVALUATION OF RODENTS AS PLAGUE CARRIERS AND THE MONOHOSTAL CHARACTER OF NATURAL FOCI OF PLAGUE. Zhur. Mikrobiol. Epidemiol. i Immunobiol. 31(2): 228-235. 1960. [From Biol. Abstr. 36(6), 1961.] WR 102: 35

[From Russian.] Translated from Zhur. Mikrobiol. Epidemiol. i Immunobiol. 31(2): 29-35, 1960.

Sealander, John A. (Univ. Ark., Fayetteville.) HEMATOLOGICAL VALUES IN DEER MICE IN RELATION TO BOTFLY INFECTION. J. Mammal. 42(1): 57-60. Feb. 1961. WR 102: 35

Abstract: An incidence of 31.8 per cent infection with botflies (Cuterebra sp.) was found in a population of deer mice (Peromyscus leucopus noveboracensis) trapped near the Queen's University Biological Station, Chaffey's Locks, Ontario, during July and August 1958. No infections were observed in mice trapped prior to 23 July. Infected mice had significantly lower hemoglobin concentrations and packed cell volumes than noninfected mice trapped during the same period. The possibility that reduced blood values resulting from myiasis might lower physiological resistance to environmental stressors sufficiently to contribute to population declines is considered.

Seidel, Don R., and Ernest S. Booth. BIOLOGY AND BREEDING HABITS OF THE MEADOW MOUSE, MICROTUS MONTANUS, IN EASTERN WASHINGTON. Walla Walla Coll. Publ. 29. p. 1-14, illus. 1960. [From long abstr. in Biol. Abstr. 36(3), 1961.] WR 102: 35

Waters, Joseph Hemenway. THE POST-WISCONSIN REDISTRIBUTION OF WHITE-FOOTED MICE, GENUS PEROMYSCUS GLOGER, IN NORTHEASTERN NORTH AMERICA, WITH PARTICULAR REFERENCE TO PEROMYSCUS LEUCOPUS NOVEBORACENSIS (FISCHER). Ph.D. thesis, Univ. Conn. 113 p. 1960. [Long abstr. In Dissertation Abstr. 21(7), 1961.] WR 102: 35

Yorgason, Ira James. AN ECOLOGICAL STUDY OF THE FOOD HABITS OF THE POCKET GOPHER (THOMOMYS TALPOIDES ROSTRALIS). M.S. thesis, Univ. Wyo. 1960. [From list by Kinsinger & Eckert, J. Range Mgmt. 14(1), 1961.] WR 102: 35

RATTUS AND MUS

Crowcroft, Peter. (British Mus. Nat. Hist., London.) SPATIAL DISTRIBUTION AND FEEDING ACTIVITY IN THE WILD HOUSE-MOUSE (MUS MUSCULUS L.). Ann. Appl. Biol. 47(1): 150-155. Mar. 1959. [From J. Mammal. 42(1), 1961.] WR 102: 35

Drummond, D. C. (Ministry Agr., Fisheries & Food, Surbiton, Surrey, England.) THE FOOD OF RATTUS NORVEGICUS BERK. IN AN AREA OF SEA WALL, SALTMARSH AND MUDFLAT. J. Anim. Ecol. 29(2): 341-347, 1 fig. Nov. 1960. WR 102: 35

The principal food throughout the year was Spartina townsendii supplemented mainly by varying amounts of dicotyledonous plants, crustacea and insects.--From summ.

Przyborowski, T. RATS (BIOLOGY AND CONTROL). PWRiL (Warsaw). 144 p., 28 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 35

Contains monograph data on the epidemiological part played by the rat, the history of its spread, biology (feeding habits, activities, reproduction) and ecology (24-hour rhythm, migrations, way in which it spreads, dynamics of colony development).

SCIURIDS

Allred, Dorald M. (Brigham Young Univ., Provo, Utah.) PARASITIC MITES ON MARMOTS IN UTAH. J. Parasitol. 47(1): 124. Feb. 1961. WR 102: 36
Mites were found on only 5 of 53 Marmota flaviventris examined. The incidence is low when compared with the finding of fleas on 37 of the marmots, lice on 25, and ticks on 14.

Bullock, W. L. (Univ. N. H., Durham.) THE OCCURRENCE OF EIMERIA TAMIASCIURI IN NEW HAMPSHIRE. J. Parasitol. 45(4--sect. 2): 39-40. Aug. 1959. WR 102: 36
Title and abstract only.

Chute, Robert M. (San Fernando Valley State Coll., Northridge, Calif.) OVERWINTERING OF HELMINTHS IN HIBERNATING ANIMALS. J. Parasitol. 46(5): 539. Oct. 1960. WR 102: 36
Adult helminths were found in 7 of 13 hibernating Marmota monax.

Dorney, Robert S., and A. C. Todd. (Univ. Wis., Madison.) OCCURRENCE OF HEPATOZOON IN GRAY SQUIRRELS IN WISCONSIN. J. Parasitol. 45(3): 309. June 1959. WR 102: 36

Judd, William W. (Univ. Western Ontario, London, Ontario, Canada.) INSECTS COLLECTED FROM WOODCHUCK BURROWS IN THE VICINITY OF LONDON, ONTARIO. Canadian Field-Nat. 75(1): 16-22, 1 fig. Jan.-Mar. 1961. WR 102: 36

Pengelley, Eric T., and Kenneth C. Fisher. (Univ. Calif., Santa Barbara.) RHYTHMICAL AROUSAL FROM HIBERNATION IN THE GOLDEN-MANTLED GROUND SQUIRREL, CITELLUS LATERALIS TESCORUM. Canadian J. Zool. 39(1): 105-120, 3 figs. Feb. 1961. WR 102: 36
Daily observations of more than 100 individuals of Citellus lateralis indicate that no animal remains continuously in hibernation longer than approximately 16 days (at 32°F.). Observations on 12 C. columbianus, 9 C. tridecemlineatus, and 28 Glis glis indicated maximum continuous hibernation periods of 19, 12, and 33 days respectively at 32°F.; C. richardsonii did not hibernate under laboratory conditions. Frequencies and causes of arousal are discussed.--From auth. abstr.

BEAVER

Smith, Kenneth E. (9137 Oliphant Rd., Baton Rouge, La.) THE BEAVER IN LOUISIANA. La. Wild Life & Fisheries Comm. 8 p., illus. + 2 maps. Mar. 1961. WR 102: 36
Popular presentation based on the theses of R. H. Chabreck and R. E. Noble. [See WR 98: 70.]

MUSKRAT AND NUTRIA

Babero, Bert B., and J. Warren Lee. (Southern Univ., Baton Rouge, La.) A PRELIMINARY REPORT ON THE HELMINTH PARASITES OF NUTRIA IN LOUISIANA. ASB Bull. 7(2): 21. 1960. [From Biol. Abstr. 36(6), 1961.] WR 102: 36
Abstract.

Davis, R. A., and A. G. Jenson. (Ministry Agr., Fisheries & Food.) A NOTE ON THE DISTRIBUTION OF THE COYPU (MYOCASTOR COYPUS) IN GREAT BRITAIN. J. Anim. Ecol. 29(2): 397 + 1 fig. Nov. 1960. WR 102: 36
The distribution of the nutria in Great Britain in 1959 is compared with that reported by Laurie in 1946 [see WR 47: 24]. The figure is a map of the earlier and current distributions.

Stanley, Hugh P., and Howard H. Hillemann. (Oreg. State Coll., Corvallis.) HISTOLOGY OF THE REPRODUCTIVE ORGANS OF NUTRIA, MYOCASTOR COYPUS (MOLINA). J. Morphol. 106(3): 277-299, illus. 1960. [From Biol. Abstr. 36(2), 1961.] WR 102: 36
The histology of the male and female reproductive systems of Myocastor coypus is described.--From auth. abstr.

Wiltowski, J. OBSERVATIONS ON THE BREEDING ON NUTRIA IN PONDS. Biuletyn Zakładu Biologii Stawów (Works on hydrobiology and fishery), Cracow, 7: 87-105, 4 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 37

In Polish with German summary. The influence of nutria is determined on the pond biocenosis and on consumption of hard vegetable matter, and also on the increase in the numbers of carp caused by the increase in the natural fertility of the ponds.

FUR ANIMALS, GENERAL

Olsen, O. W. (Colo. State Univ., Fort Collins.) SYLVATIC TRICHINOSIS IN CARNIVOROUS MAMMALS IN THE ROCKY MOUNTAIN REGION OF COLORADO. J. Parasitol. 46(5--sect. 2): 22. Oct. 1960. WR 102: 37

Title and abstract only. Predators examined included 394 bobcats, 193 coyotes, 33 foxes, 11 skunks, 6 mountain lions, 5 badgers, 2 raccoons, and 1 bear. One percent of the bobcats, 0.5 percent of the coyotes, and 3.0 percent of the foxes were infected.

BEARS

King, John M., Hugh C. Black, and Oliver H. Hewitt. (Wash. State Vet. Coll., Pullman.) PATHOLOGY, PARASITOLOGY AND HEMATOLOGY OF THE BLACK BEAR IN NEW YORK. N. Y. Fish & Game J. 7(2): 99-111, 5 figs. July 1960. WR 102: 37

Based on the study of 323 black bears (of which 82 were autopsied). Ectoparasites were very scarce, roundworms were fairly common, and microfilariae were found in 47 blood smears of 101 examined. Pieces of diaphragm from 49 bears were examined for trichinae; 3 were positive. Gross lesions, mostly from headed gunshot wounds, are described. Hematological data are presented for 8 individuals.--From auth. abstr.

Moulton, J. E. (Univ. Calif., Davis.) BILE DUCT CARCINOMAS IN TWO BEARS. Cornell Vet. 61(2): 285-293, 2 figs. Apr. 1961. WR 102: 37

Description of one case in the grizzly bear and one in the sloth bear.

Patrick, N. D. (Ontario Dept. Lands & Forests, Swastika.) ESTIMATING TOTAL WEIGHTS OF BLACK BEARS FROM CARCASS WEIGHTS. J. Wildl. Mgmt. 25(1): 93, 1 fig. Jan. 1961. WR 102: 37

Total weight, skinned weight, and skinned and dressed weights of Ontario bears were compared and equations relating skinned weight to total weight and skinned dressed weight to total weight were calculated.

Priaulx, A. W. BEARS VS. TREES. Southern Lumberman 201(2513): 92-94. 15 Dec. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 37

"Chiefly protection of Pacific Northwest tree farms."

RACCOON, RINGTAIL, COATI

Ash, Lawrence Robert. THE LIFE CYCLE AND EPIDEMIOLOGY OF GNATHOSOMA PROCYONIS CHANDLER, 1942, A NEMATODE PARASITE OF THE RACCOON. Ph.D. thesis, Tulane Univ. 73 p. 1960. [Long abstr. in Dissertation Abstr. 21(8), 1961.] WR 102: 37

Babero, Bert B., and Jacqueline R. Shepperson. (Emergency Sci. Inst., Lagos, Nigeria.) SOME HELMINTHS OF RACCOONS IN GEORGIA. J. Parasitol. 44(5): 519. Oct. 1958. WR 102: 37

Fourteen genera of helminths comprising about 16 spp. were recovered from 6 raccoons of central Ga.

Clark, Gordon Marston, and Carlton M. Herman. (Patuxent Wildl. Res. Center, Laurel, Md.) PARASITES OF THE RACCOON, PROCYON LOTOR. J. Parasitol. 45 (4--sect. 2): 58. Aug. 1959. WR 102: 38
Title and abstract only. At least 76 species of parasites have been reported from raccoons. These include 4 species of protozoa, 27 nematodes, 20 trematodes, 7 cestodes, 3 acanthocephala, and 15 arthropods.

Harkema, Reinard, and Grover C. Miller. (N. C. State Coll., Raleigh.) A NEW STRIGEID TREMATODE (DIPLOSTOMATIDAE: ALARIINAE) FROM THE PANCREATIC DUCT OF THE RACCOON. J. Parasitol. 44(4--sect. 2): 43. Aug. 1958. WR 102: 38
Title and abstract only.

Hugghins, Ernest J. (S. Dak. State Coll., Brookings.) GUINEA WORMS IN A RACCOON FROM SOUTH DAKOTA AND IN MINK FROM MINNESOTA. J. Parasitol. 44(4--sect. 2): 41-42. Aug. 1958. WR 102: 38
Title and abstract only.

Jordan, Helen E., and Frank A. Hayes. (Univ. Ga., Athens.) GASTROINTESTINAL HELMINTHS OF RACCOONS (PROCYON LOTOR) FROM OSSABAW ISLAND, GEORGIA. J. Parasitol. 45(3): 249-252. June 1959. WR 102: 38
An annotated list of the 7 spp. of helminths found in a study of 100 raccoons collected during winter, 1957.

Layne, James N., Dale E. Birkenholz, and James V. Griffo, Jr. (Univ. Fla., Gainesville.) RECORDS OF DRACUNCULUS INSIGNIS (LEIDY, 1858) FROM RACCOONS IN FLORIDA. J. Parasitol. 46(6): 685. Dec. 1960. WR 102: 38
Includes N. Am. records of the guinea worms in wild carnivores and muskrats.

Neal, Bobby J. (Humboldt State Coll., Arcata, Calif.) TWO PARASITES FROM COATI IN SOUTHERN ARIZONA. J. Parasitol. 46(5): 647. Oct. 1960. WR 102: 38
An ectoparasite (Pulex irritans) and a nematode (Physaloptera rara) from a ♂ coati.

Sanderson, Glen C., and Richard M. Thomas. (Ill. Nat. Hist. Survey, Urbana.) INCIDENCE OF LEAD IN LIVERS OF ILLINOIS RACCOONS. J. Wildl. Mgmt. 25(2): 160-168, 1 fig. Apr. 1961. WR 102: 38
Concentrations of lead ranging from 1 to 32 micrograms per gram were found in livers of 100 wild raccoons killed in Ill. during Nov. and Dec. 1958 and Jan. 1959. Livers collected from raccoons during July-Sept. had significantly less lead than those collected during Oct.-Dec. Raccoons appear to be resistant to high levels of lead, but in spite of widely varying responses, lead intoxication, along with other factors, may be a cause of mortality in wild raccoons.--From summ.

Shell, W. F., and A. J. Riopelle. (Emory Univ., Atlanta, Ga.) MULTIPLE DISCRIMINATION LEARNING IN RACCOONS. J. Comp. & Physiol. Psychol. 50: 585-587. 1957. [From Biol. Abstr. 36(2), 1961.] WR 102: 38
"Four young raccoons were trained on three sets of 75 object-quality discrimination problems of 20 trials each interspersed among four sets of five problems in which training was carried to criterion. Progressive intra-problem improvement occurred as training progressed, although performance never attained the proficiency of primates. Instead, proficiency was more nearly comparable to that shown by cats."--Courtesy/ Psychol. Abstr.

MUSTELIDS

Babero, B. B. (Emergency Sci. Inst., Lagos, Nigeria.) A SURVEY OF PARASITISM IN SKUNKS (MEPHITIS MEPHITIS) IN LOUISIANA, WITH OBSERVATIONS ON PATHOLOGICAL DAMAGES DUE TO HELMINTHIASIS. J. Parasitol. 46(5--sect. 2): 26-27. Oct. 1960. WR 102: 38
Title and abstract only.

McTaggert, H. S. (Univ. Edinburgh, Scotland.) COCCIDEA FROM MINK IN BRITAIN. J. Parasitol. 46(2): 201-205, 3 figs. Apr. 1960. WR 102: 38

MUSTELIDS--Continued

Mitchell, James L. (Mont. Fish & Game Dept., Dillon.) MINK MOVEMENTS AND POPULATIONS ON A MONTANA RIVER. J. Wildl. Mgmt. 25(1): 48-54, 2 figs. Jan. 1961. WR 102: 39

Based on a 1955-8 study conducted on the Madison River, Mont. Seventy-six of 111 tagged animals were recovered. Data indicated an almost complete population turnover in 3 years. The maximun diameter of movements for ♂♂ was 3 miles. Preseason populations were calculated to be 21.9 and 8.5 minks per section in 1957 and 1958, respectively. The height of the breeding season occurred in March.--From summ.

Morse, William B. RETURN OF THE FISHER. An. Forests 67(4): 24-26, 47. Apr. 1961. WR 102: 39

A popular account of the basic biology of the fisher and the program for restocking this valuable furbearer in the Pacific Northwest. Restocking has been completed in Mont., is half-completed in Oreg., and should be completed in Idaho in 1961-2. Wild-trapped fisher from British Columbia are used. Foresters join game administrators and the general public in endorsing the re-establishment of a predator that has proved important in the biological control of the porcupine.

Pavlov, M. P., and I. B. Kiris. [CONTRIBUTION TO THE FEEDING HABITS OF THE OTTER (LUTRA LUTRA L.) IN THE TRANSCAUCASIA AND ITS RELATIONSHIP TO COYPU RAT (MYOCASTOR COYPUS MOL.).] Zool. Zhur. 39(4): 600-607. Apr. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 39

In Russian with English summary.

Worley, D. E. (Parke, Davis & Co., Ann Arbor, Mich.) THE OCCURRENCE OF FILARIA MARTIS GMELIN, 1790, IN THE STRIPED SKUNK AND BADGER IN KANSAS. J. Parasitol. 47(1): 9-11, 4 figs. Feb. 1961. WR 102: 39

DOGS, WOLVES, FOXES

Clark, Lawrence G., Joseph I. Kresse, Robert R. Marshak, and Charles J. Hollister. (Univ. Pa., Kennett Square.) LEPTOSPIRA POMONA INFECTION IN AN EASTERN RED FOX (VULPES FULVA FULVA). Nature 188(4755): 1040-1041. 17 Dec. 1960. WR 102: 39

Lord, Rexford D., Jr. (Ill. Nat. Hist. Survey, Urbana.) THE LENS AS AN INDICATOR OF AGE IN THE GRAY FOX. J. Mammal. 42(1): 109-111, 1 fig. Feb. 1961. WR 102: 39

In a comparison of methods on 104 foxes, there was a 78% agreement between the lens and tooth-wear techniques. Most of the discrepency was in the older age categories. There was a 90% agreement when the techniques were used simply to distinguish between juvenile and adult foxes.

Mandelli, G. [RESEARCH ON THE FOOD HABITS OF FOXES (VULPES VULPES L.) IN GRAN PARADISO NATIONAL PARK; PRELIMINARY INVESTIGATIONS ON THE MACRO-MICROSCOPIC CHARACTERISTICS OF THE HAIRS OF THEIR PRINCIPAL PREY.] Clin. Vet. 83(8): 235-243. Aug. 1960. [From Bibliog. Agr. 25(1), 1961.] WR 102: 39

In Italian with English summary.

CATS

Gashwiler, Jay S., W. Leslie Robinette, and Owen W. Morris. (US F&WS, Corvallis, Oreg.) BREEDING HABITS OF BOBCATS IN UTAH. J. Mammal. 42(1): 76-84. Feb. 1961. WR 102: 39

The sex ratio of trapped bobcats showed a preponderance of ♂♂. Breeding occurred from Jan.-July, or later. Embryos were found from Jan.-Sept.--most in Mar. and Apr. They ranged in number from 1-8 with a mode of 3. Litter size was 1-6; mode was 4. Birth dates of 13 litters ranged from Mar.-July. Lactating ♀♀ were found from Mar.-Sept.--most in May. There was no indication that ♂♂ help care for the young. Females are good mothers but, if unduly disturbed, may desert the newborn young. Kittens stay with the ♀ until almost grown. A case of hybridization between a ♂ bobcat and ♀ domestic cat is reported.--From auth. abstr.

CATS--Continued

Jordan, Helen E., and Elon E. Byrd. (Univ. Ga., Athens.) PARAGONIMUS IN WILD AND DOMESTICATED ANIMALS IN GEORGIA. J. Parasitol. 44(5): 470. Oct. 1958. WR 102: 40
Found in the bobcat.

Klewer, H. L. (Va. Poly. Inst., Blacksburg, Va.) THE INCIDENCE OF HELMINTH LUNG PARASITES OF LYNX RUFUS RUFUS (SHREBER) AND THE LIFE CYCLE OF ANAFILAROIDES ROSTRATUS GERICHTER, 1949. J. Parasitol. 44(4--sect. 2): 29. Aug. 1958. WR 102: 40
Title and abstract only. Based on the study of 24 bobcats in Va.

Lange, Kenneth I. (U. S. Natl. Museum, Washington, D. C.) THE JAGUAR IN ARIZONA. Trans. Kansas Acad. Sci. 63(2): 96-101, map. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 40
References to the jaguar, Felis onca arizonensis, in Arizona for the period, 1885-1959, consists of about 45 reported kills, 6 sight records, and 2 records of sign. All jaguar records in Arizona for the past 18 years are within 50 miles of the Mexican border.--From auth. abstr.

BIG GAME, GENERAL

Allen, Rex W., and Kay S. Samson. (Agr. Res. Serv., University Park, N. Mex.) FURTHER OBSERVATIONS ON THYSANOSOMA ACTINIOIDES IN THE AMERICAN PRONGHORN. J. Parasitol. 46(5): 671. Oct 1960. WR 102: 40
A refutation of former findings that the fringed tapeworm is not as well adapted to pronghorns as it is to domestic sheep.

Altmann, Margaret. (Biol. Res. Sta., Moran, Wyo.) "TEEN-AGE" PROBLEMS IN THE WILDERNESS. Animal Kingdom 64(2): 41-44, 4 photos. Mar.-Apr. 1961. WR 102: 40
Account of the social life of juvenile moose. This follows the author's earlier account of parental care in moose entitled "Life With Mother" [WR 89: 36].

Batcheler, C. L. (New Zealand Forestry Serv.) A STUDY OF THE RELATIONS BETWEEN ROE, RED AND FALLOW DEER, WITH SPECIAL REFERENCE TO DRUMMOND HILL FOREST, SCOTLAND. J. Anim. Ecol. 29(2): 375-384, 2 figs. + 1 pl. Nov. 1960. WR 102: 40
Kill records and pellet group counts indicate that roe deer are usually most abundant in a young forest and that later their numbers decline, red deer become more numerous at a later stage of development, and fallow deer are most numerous in older forests.

Bergerud, Arthur T. (Dept. Mines & Resources, St. John's, Newfoundland.) SEX DETERMINATION OF CARIBOU CALVES. J. Wildl. Mgmt. 25(2): 203, 1 fig. Apr. 1961. WR 102: 40
Describes the field technique involving direct observation of genitalia in which it was possible to sex 202 calves out of a total of 514 seen within a 5-day period in June. The presence or absence of the vulva has also been used to sex caribou of all ages.

Bubenik, A. B. (Radlická 22, Prague 16, Smichov, Czechoslovakia.) LE RYTHME NYCTHÉMÉRAL ET LE RÉGIME JOURNALIER DES ONGULÉS SAUVAGES. PROBLÈMES THÉORIQUES. RYTHME D'ACTIVITÉ DU CHEVREUIL. [THE DIEL RHYTHM AND DAILY ACTIVITY PATTERN OF WILD UNGULATES. THEORETICAL PROBLEMS. RHYTHMIC ACTIVITIES OF THE ROEBUCK.] Mammalia (Paris) 24(1): 1-67. Mar. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 40
In French.

Buechner, Helmut K. (Dept. Zool., Wash. State Univ., Pullman.) TERRITORIAL BEHAVIOR IN UGANDA KOB. Science 133(3454): 698-699. 10 Mar. 1961. WR 102: 41
Territorial behavior of the Uganda kob, Adenota kob thomasi, is largely the defense of small, fixed territories within a central area of concentrated territorial activity. This area is surrounded by a zone of more widely spaced territories. Females enter the territorial ground throughout the year for the purpose of breeding.--From auth. abstr.

Burckhardt, Dieter. (Swiss League for Protection of Nature, Sempach LU, Switzerland.) GREAT HORNS AND HIGH ALPS / SAVED FROM EXTINCTION, IBEXES NOW ABOUND. Nat. Hist. 70(2): 9-15, illus. Feb. 1961. WR 102: 41
Popular account of the restoration and life history of the ibex.

Buss, Irven O. (Wash. State Univ., Pullman.) SOME OBSERVATIONS ON FOOD HABITS AND BEHAVIOR OF THE AFRICAN ELEPHANT. J. Wildl. Mgmt. 25(2): 131-148, 6 figs. Apr. 1961. WR 102: 41
Discussion of habitat, food habits, and behavior of the African elephant.

De Avila-Pires, F. A. AS FORMAS SUL-AMERICANAS DO "VEADO-VIRÁ". [ON THE SOUTH AMERICAN FORMS OF THE WHITE-TAILED DEER.] Ann. Acad. Brasil. Cienc. 31 (4): 547-556. 1959. [From Biol. Abstr. 36(3), 1961.] WR 102: 41
[In Portuguese.] The genus Mazama (Cervidae) is represented in South America by the type sp. M. simplicicornis (Illiger, 1815). Mazama nana (Lund, 1842) is probably a red deer, not a white-tailed form. A very complete list of synonyms is presented, together with a reference to the type locality of each ssp. and an indication where the type animal of each ssp. is preserved.--From abstr. by A. C. Walton.

Dunn, Angus M. (Univ. Glasgow Vet. Sch., Scotland.) LOUPINGILL: THE RED DEER (CERVUS ELAPHUS) AS AN ALTERNATIVE HOST OF THE VIRUS IN SCOTLAND. Brit. Vet. J. 116(8): 284-287. 1960. [From Biol. Abstr. 36(5), 1961.] WR 102: 41
Serum samples from 300 deer were examined by the serum-virus neutralization method. The percentage of positive samples was 37 for stags and 22 for hinds. Very few less than 2 years of age showed evidence of infection.--From abstr. by K. L. Bullis.

Gibbs, H. C. (Macdonald Coll., Montreal, Canada.) A REDESCRIPTION OF AVITELLINA ARCTICA KOLMAKOV, 1938 (ANOPLOCEPHALIDAE: THYSANOSOMINAE), FROM RANGIFER ARCTICUS ARCTICUS IN NORTHERN CANADA. J. Parasitol. 46(5): 624-628, 12 figs. Oct. 1960. WR 102: 41

Grzimek, Bernhard. (Frankfurt Zoo, Frankfurt-am-Main, Germany.) THE LAST GREAT HERDS OF AFRICA. Nat. Hist. 70(1): 8-21, illus. Jan. 1961. WR 102: 41
A popular account of the aerial census of animals in Serengeti Natl. Park. [See WR 98: 39 for an abstract from the technical paper.] Casual mention is made of modifications in the dart gun which increased its accuracy and effectiveness. "The new power source was compressed air [instead of compressed carbon dioxide] at a pressure of nearly three thousand pounds per square inch. The effective range of the weapon rose to 120 feet with reasonable accuracy. The hypodermic bullets were also modified so that the impact of hitting the target was sufficient to drive home the plunger. This meant that a supply of darts could now be loaded in camp and taken, ready to use, into the field."

Hamilton, W. J., R. J. Harrison, and B. A. Young. ASPECTS OF PLACENTATION IN CERTAIN CERVIDAE. J. Anat. (Cambridge) 94(1): 1-33. Jan. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 41

Heizer, Robert F., and Martin A. Baumhoff. (Univ. Calif., Berkeley.) GREAT BASIN PETROGLYPHS AND PREHISTORIC GAME TRAILS. Science 129(3333): 904-905. 3 Apr. 1959. WR 102: 41
Recent field investigations indicate that aboriginal petroglyphs ("rock-writing") are connected with hunting magic, presumably aimed at success in the chase, and that they are located along routes of deer migration.--From auth. abstr.

Herre, Wolf, and Rolf Wiermann. ZUR GESCHICHTE DES ROTHIRSCHES CERVUS ELAPHUS L. IN SCHLESWIG-HOLSTEIN. [ON THE HISTORY OF THE RED DEER CERVUS ELAPHUS L. IN SCHLESWIG-HOLSTEIN.] Schr. Naturw. Ver. Schleswig-Holstein 30: 75-78. Mar. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 42
[In German.]

Jokinen, P. W. HIRVIVAHINKOKOMITEAN MIETINTÖ. [REPORT OF COMMITTEE ON DAMAGE BY MOOSE.] Silva Fennica 106: 7-57, maps. 1960. [From Biol. Abstr. 36(7), 1961.] WR 102: 42
[In Finnish.]

Kozlovskij, A. A. [PROTECTING THE FOREST FROM ELK DAMAGE.] VNIILM (Moscow). 58 p., illus. 1960. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 6 Mar. 1961.] WR 102: 42
In Russian.--Courtesy/ Frank M. Johnson.

Nishida, H. (Tottori Univ., Yonago, Japan.) [ON GNATHOSTOMA DOLORESI TUBANGUI, 1926 IN CHÛGOKU REGION.] J. Yonago Med. Assoc. 8(3): 465-467. 1957. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 42
In Japanese. The stomachs of 48 wild boars were examined for Gnathostoma doloresi, and adult worms of this species were found in 11 of them.

Pickvance, T. J., and J. S. R. Chard. MIDLAND MAMMALS SURVEY I. FERAL MUNTJAC DEER (MUNTIACUS SPP.) IN THE WEST MIDLANDS, WITH SPECIAL REFERENCE TO WARWICKSHIRE. Proc. Birmingham Nat. Hist. & Philos. Soc. 19(1): 1-8. 1960. [From J. Mammal. 42(1), 1961.] WR 102: 42

Scott, G. R., K. M. Cowan, and R. T. Elliott. RINDERPEST IN IMPALA. Vet. Record 72: 787-788. 1960. [From abstr. in Vet. Bull. 31(3), 1961.] WR 102: 42
"Although all...Artiodactyla are probably susceptible to rinderpest, the only species regularly incriminated in East Africa are buffalo, eland and wild pig. In a recent flare-up, in addition to these three species, deaths occurred in giraffe, bushbuck and impala."

Szabolcs, J. [CONTROL OF THE HUNGARIAN DEER POPULATION FOR REDUCING WILDLIFE DAMAGES.] Erdö 9(9): 341-349. Sept. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 42
In Hungarian.

Tener, J. S. THE PRESENT STATUS OF THE BARREN-GROUND CARIBOU. Canadian Geog. J. 60(3): 98-105, illus. 1960. [From Polar Record 10(67), 1961.] WR 102: 42
"Survey of population of herds and steps taken to preserve numbers."

DEER (Odocoileus)

Alkon, Philip U. (Wildl. Res. Lab., Delmar, N. Y.) NUTRITIONAL AND ACCEPTABILITY VALUES OF HARDWOOD SLASH AS WINTER DEER BROWSE. J. Wildl. Mgmt. 25(1): 77-81. Jan. 1961. WR 102: 42
Nutrient and acceptability values of browse from slash of 3 spp. of hardwoods felled at monthly intervals through dormancy were studied. The results indicated that trees felled any time after leaf fall provided browse that was equally as nutritious and decidedly more acceptable than browse from trees cut immediately before leaf fall.--From summ.

Anderson, Carl F. (Oreg. State Game Comm., Corvallis.) ANESTHETIZING DEER BY ARROW. J. Wildl. Mgmt. 25(2): 202-203, 1 fig. Apr. 1961. WR 102: 42
A syringe-tipped arrow "was developed that provided a simple, fast-acting, inexpensive method of anesthetizing deer at a distance of as much as 60 yd. The device, which we have called the 'arrow syringe,' is capable of holding 1 cc. of liquid, an amount found to be sufficient when such drugs as nicotine salicylate or succinylcholine chloride are used."

Ashcraft, Gordon C., Jr. (Calif. Dept. Fish & Game, Sacramento.) DEER MOVEMENTS OF THE McCLOUD FLATS HERDS. Calif. Fish & Game 47(2): 145-152, 4 figs. Apr. 1961. WR 102: 43

During a 1955-8 deer migration study, 115 deer were captured. Belling increased the number of observations and neck tags proved superior to other markings for individual identification. Summer and winter home ranges were relatively small (based on observations and retrapping records). Deer that summered in the McCloud Flats wintered on 7 different winter ranges--only 2 of these ranges were down drainages from the summer range.--From summ.

Brown, Ellsworth Reade. (Wash. State Game Dept., Pullman.) THE BLACK-TAILED DEER OF WESTERN WASHINGTON. Wash. State Game Dept., Biol. Bull. no. 13. 124 p., 9 figs. + 19 pls. Mar. 1961. WR 102: 43

Based upon investigations during 1949-59. Contains detailed information organized into the following major sections: physical characteristics, reproduction, mortality factors, fawn tagging and deer movement, population density, food habits, range problems, and management. There are appendices on plant names, tooth replacement and development from known-age black-tailed deer, and pathology of the deer.

Capelle, Kenneth J., and Clyde M. Senger. (US F&WS, Sacramento, Calif.) OCCURRENCE OF CEPHENEMYIA JELLISONI IN A SAMPLE OF MONTANA MULE DEER. J. Parasitol. 45(4--sect. 2): 32. Aug. 1959. WR 102: 43

Title and abstract only. In a sample of 40 mule deer, collected throughout the period Oct.-June, 75% were parasitized with an average of 27 bots per animal.

Habeck, J. R., and J. T. Curtis. FOREST COVER AND DEER POPULATION DENSITIES IN EARLY NORTHERN WISCONSIN. Trans. Wis. Acad. Sci. 48: 49-56. 1959. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 6 Mar. 1961.] WR 102: 43

From a study of travellers' reports it is concluded that the landscape before settlement was a mosaic of mature secondary and pioneer communities, so that white-tailed deer would have found summer browse in many places, and probably was not so rare as had once been thought.--Courtesy/ Frank M. Johnson.

Hamilton, Kex. FACTORS AFFECTING DISPERSAL OF RELEASED DEER IN INDIANA. M.S. thesis, Univ. Mo. 64 p. 1961. WR 102: 43

Julander, Odell, W. Leslie Robinette, and Dale A. Jones. (Intermountain Forest & Range Expt. Sta., Ogden, Utah.) RELATION OF SUMMER RANGE CONDITION TO MULE DEER PRODUCTIVITY. J. Wildl. Mgmt. 25(1): 54-60. Jan. 1961. WR 102: 43

Productivity of 2 mule deer herds in Utah and Idaho were studied: one a severely depleted summer range in central Utah; the other on good summer range in southern Idaho. Weight ratios by age and sex classes on the poor range were 72-90% of those obtained on good range. Average ovulation rate per doe on depleted range (1.31) was only 67% of that on the good range (1.95). Fetal rate per doe averaged 1.19 for the poor range compared to 1.85 for the good range.--From summ.

Long, T. A., R. L. Cowan, C. W. Wolfe, and R. W. Swift. (Pa. State Univ., University Park.) FEEDING THE WHITE-TAILED DEER FAWN. J. Wildl. Mgmt. 25(1): 94-95. Jan. 1961. WR 102: 43

Summary: Evaporated milk, a commercial milk replacer, pasteurized homogenized milk, and raw Jersey milk were fed to four groups of white-tailed deer fawns over a 7-week period to compare the efficacy of these diets for raising fawns to weaning age. Average body weight gains in pounds for the fawns fed the various rations were evaporated milk, 19.5; milk replacer, 15.3; pasteurized homogenized milk, 18.0; and raw milk, 25.0.

Senger, Clyde M., and Kenneth J. Capelle. (Mont. State Univ., Missoula.) LOUSE-FLIES FROM MULE AND WHITE-TAILED DEER IN WESTERN MONTANA. J. Parasitol. 45(4--sect. 2): 32. Aug. 1959. WR 102: 43

Title and abstract only.

Silver, Helenette. (N. H. Fish & Game Dept., Concord.) DEER MILK COMPARED WITH SUBSTITUTE MILK FOR FAWNS. J. Wildl. Mgmt. 25(1): 66-70, 1 fig. Jan. 1961. WR 102: 44

Fawns fed evaporated milk were slightly heavier at the age of 6 months than fawns naturally reared, and 14 pounds heavier than fawns reared on whole cows' milk. Cost of evaporated milk was 40% less than whole milk and labor was reduced. Composition of evaporated milk, and does' and cows' milk at different stages of lactation is compared.--From summ.

MAMMALS--MARINE

Allsopp, W. H. L. (Dept. Agr., P. O. Box 174, Georgetown, British Guiana.) THE MANATEE: ECOLOGY AND USE FOR WEED CONTROL. Nature 188(4752): 762. 26 Nov. 1960. WR 102: 44

"As a means of water-weed control, the use of these animals is far more effective and lasting than the usual chemical weedicides. They are harmless to fishes and other water animals."

Beklemishev, K. V. [THE ANTARCTIC DIVERGENCE AND WHALE FEEDING GROUNDS.] Izv. Akad. Nauk SSSR, Ser. Geog. 1959(6): 90-93. 1959. [From Polar Record 10 (67), 1961.] WR 102: 44

In Russian. "Correlation between concentrations of kill and centres of low atmospheric pressure."

Bel'kovich, V. M., and R. Sh. Khuzin. [THE ATLANTIC WALRUS. PRESERVATION AND PROPAGATION OF A VALUABLE NORTHERN ANIMAL.] Priroda 1960(2): 67-69, map. 1960. [From Polar Record 10(67), 1961.] WR 102: 44

In Russian. "Distribution and numbers of Odobaenus rosmarus in Soviet Arctic; need for detailed study and protective measures."

Dorofeev, S. V. [MATERIALS ON THE DYNAMICS OF THE FUR SEAL POPULATION OF OSTROV TYULENIY.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 65(1): 29-35. 1960. [From Polar Record 10(67), 1961.] WR 102: 44

Fejer, Andrew A., and Richard H. Backus. (Woods Hole Oceanographic Inst., Mass.) PORPOISES AND THE BOW-RIDING OF SHIPS UNDER WAY. Nature 188(4752): 700-703, 4 figs. 26 Nov. 1960. WR 102: 44

A review of the theories explaining the phenomenon of porpoises dwelling almost motionless near the bows of ships under way while obtaining propulsive power from the moving vessel. A new theory based on ten years of observation is advanced.

Harrison, R. J. (Univ. London, England.) EXPERIMENTS WITH DIVING SEALS. Nature 188(4756): 1068-1070. 24 Dec. 1960. WR 102: 44

Records of depths and durations of dives for several species of mammals and birds are given. The bulk of the paper deals with experimental work on pups, yearlings, and adolescent Phoca vitulina.

Kellogg, W. N. (Fla. State Univ., Tallahassee.) ECHO RANGING IN THE PORPOISE. Science 128(3330): 982-988, 6 figs. 24 Oct. 1958. WR 102: 44

This article summarizes a series of investigations on underwater echo ranging conducted at the Marine Lab., Fla. State Univ. From these investigations, it was concluded that "the location and discrimination of submerged objects by reflected sound signals is without doubt a necessary and a fundamental perceptual avenue for...[Tursiops truncatus]."

Kenyon, Karl W. (US F&WS, Sand Point Naval Air Sta., Seattle, Wash.) CUVIER BEAKED WHALES STRANDED IN THE ALEUTIAN ISLANDS. J. Mammal. 42(1): 71-76, 1 fig., 2 pls. Feb. 1961. WR 102: 44

Two whales, Ziphius cavirostris, a ♂ and a ♀ were found dead on beaches of Amchitka Island, Alaska. This is a widely distributed but uncommon species. The skulls of both animals were preserved. Measurements and stomach contents are recorded.--From auth. abstr.

Laws, R. M. RESEARCHES ON THE PERIOD OF CONCEPTION, DURATION OF GESTATION AND GROWTH OF THE FOETUS IN THE FIN WHALE, BASED ON DATA FROM INTERNATIONAL WHALING STATISTICS. COMMENTS ON C. NAAKTGEBOREN'S, E. J. SLIJPER'S AND W. L. VAN UTRECHT'S ARTICLE. Norsk Hvalfangst-Tidende (Norwegian Whaling Gazette) 49(5): 216-220. May 1960. [From J. Mammal. 42(1), 1961.] WR 102: 45

Oppenheimer, Gerald J. (Univ. Washington, Seattle.) REFERENCE SOURCES FOR MARINE MAMMALOGY. US F&WS Spec. Sci. Rept., Fisheries no. 361. 9 p. Aug. 1960. WR 102: 45
"The main purpose of this list is to answer the question 'which sources should be consulted in order to keep informed on the current literature of marine mammalogy?'" Emphasis is on cetaceans and pinnipeds.

Pedersen, Alwin. SAMMENTRAEF MED HVALROSSER. [OBSERVATIONS OF WALRUS.] Grønland 1960(3): 93-102, illus. 1960. [From Polar Record 10(67), 1961.] WR 102: 45
In Danish. "Walrus (Trichechus rosmarus), especially as observed by author in east Greenland."

Popov, L. A. [MATERIAL ON THE BIOLOGY OF THE REPRODUCTION OF THE LAPTEV SEA WALRUS.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 65(2): 25-30. 1960. [From Polar Record 10(67), 1961.] WR 102: 45
In Russian with English summary. "Sex dimorphism."

Sergeant, D. E., and H. D. Fisher. HARP SEAL POPULATIONS IN THE WESTERN NORTH ATLANTIC FROM 1950 TO 1960. Fisheries Res. Board of Canada, Circ. no. 5. ii + 58 p., mimeo. Sept. 1960. WR 102: 45
The total annual catch of young harp seal in recent years has averaged 240,000, with highs of 340,000 in 1951 and 1956. Analysis of age samples showed consistently fewer survivors from years of high catch than after years of lower catch. The catch of immatures in 1949-58 probably averaged 23,000 but in 4 recent years only 14,400. From 1930-58 the adult catch increased from 7,000 to 53,000 per year (72,610 in the same 4 recent years). High catches of young, leading to decreased recruitment, followed by catches of immatures and adults, raise the mortality rate sufficiently to account for the observed decline in the herd in recent years.--From auth. summ.

Zemskiy, V. A. [MATERIAL ON THE REPRODUCTION OF THE ANTARCTIC FIN WHALE (BALAENOPTERA PHYSALUS).] Bull. Moscow Obshch. Ispyt. Prirody, Biol. 65(1): 17-27. 1960. [From Polar Record 10(67), 1961.] WR 102: 45
In Russian. "Study of pregnant females caught by Slava, 1948-57."

MAMMALS--OTHER GROUPS

Babero, Bert B. (Emergency Sci. Inst., Lagos, Nigeria.) FURTHER STUDIES ON HELMINTHS OF THE OPOSSUM, DIDELPHIS VIRGINIANA, WITH A DESCRIPTION OF A NEW SPECIES FROM THIS HOST. J. Parasitol. 46(4): 455-463, 6 figs. Aug. 1960. WR 102: 45
Fifteen genera comprising about 17 spp. of helminths were recovered upon the examination of 26 opossums.

Gurwell, Bill. (Wyandotte High School, Kansas City.) A BEHAVIORISTIC STUDY OF THE AMERICAN OPOSSUM AND ITS RELATIONSHIP TO ILLUMINATION. Trans. Kansas Acad. Sci. 61(1): 35-36. 1948. [From Biol. Abstr. 36(3), 1961.] WR 102: 45

McNally, J. (Fish & Game Dept., Victoria, Australia.) KOALA MANAGEMENT IN VICTORIA. Australian Mus. Mag. 13(6): 178-181. 15 June 1960. [From J. Mammal. 42(1), 1961.] WR 102: 45

MAMMALS--OTHER GROUPS--Continued

Sanderson, Glen C. (Ill. Nat. Hist. Survey, Urbana.) ESTIMATING OPOSSUM POPULATIONS BY MARKING YOUNG. J. Wildl. Mgmt. 25(1): 20-27, 2 figs. Jan. 1961. WR 102: 46

A technique for marking young opossums captured while still in the pouch is described and some results obtained by application of the technique are given. Sex ratios of young examined in the pouch were essentially 50:50. Similar results were obtained from live-trapping. The population estimate, based on data from young marked in the pouch and caught later, was 222 per sq mile for 1958 and 244 per sq mile in 1959. An estimate of 234 per sq mile was obtained for 1958 using live-trapping results from the following year.--From summ.

BIRDS--GENERAL

Sutton, George Miksch. ICELAND SUMMER / ADVENTURES OF A BIRD PAINTER. Univ. Okla. Press (Norman). xviii + 253 p., illus. 1961. $5.95. WR 102: 46

In this book George Sutton gives us a narrative account of redshanks and phalaropes, grebes and gulls, buntings and redpolls, ptarmigan and ducks, terns and snipe, wagtails and pipits, accident and adventure, friendship and history, and many other subjects as he details the summer of 1958 in Iceland with the Sewall Pettingills. In a few hours with this book one becomes familiar with most of the birds, their continental or old world affinities, the terrain and the people--including the fisherman in the local cafe. A couple of dozen exquisite black and white sketches and photographs help detail the birds and the country. The frontispiece shows the Icelandic gyrfalcon in a full color painting with a skillfully completed background. In rare paintings, such as these, Sutton joins Fuertes in all time greatness of natural fidelity in wildlife painting.--John L. George.

BIRDS--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Cornwallis, R. K. FOUR INVASIONS OF WAXWINGS DURING 1956-60. Brit. Birds 54(1): 1-30, 14 figs., 4 pls. Jan. 1961. WR 102: 46

The waxwing (Bombycilla garrulus) has a Holarctic breeding range in the boreal zone, but seldom migrates to Britain and Ireland. The irregularity of food supply is discussed in relation to its effect on the population and on the timing and extent of movements. The development of the migration pattern through Scandinavia into Great Britain is discussed.--Mary A. Myers.

Cullen, J. M. (Univ. Museum, Oxford, England.) SOME ADAPTATIONS IN THE NESTING BEHAVIOUR OF TERNS. Proc. Intern. Ornithol. Congr. 12: 153-157. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 46

A comparison of different spp. of terns, particularly the dense-nesting Sandwich tern and the more open-nesting Arctic and common, suggests that many of the differences in their nesting habits can be attributed, directly or indirectly to different methods of avoiding predation.--From abstr.

Curio, Eberhard. LEBENSERWARTUNG UND BRUTGRÖSSE BEIM TRAUERSCHNÄPPER (MUSCICAPA H. HYPOLEUCA PALLAS). [LIFE EXPECTANCY AND BROOD SIZE IN THE PIED FLYCATCHER.] Proc. Intern. Ornithol. Congr. 12: 158-161. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 46

[In German.] A population of pied flycatchers, nestlings and adults, was banded as completely as possible during 5 years in a study area in Berlin-Grunewald, the main vegetation of which were conifers. After returning to their birthplace, the young birds were caught and color-banded in the same manner as were the adults. Out of a total of 676 nestlings 62 returned to their birthplace; the rate of recovery was the same for all the brood-sizes observed. Therefore, nestlings from large broods have a life-expectancy as high as those from smaller ones, from fledging on to adulthood. This result is briefly discussed on the basis of Lack's theory concerning the evolution of clutch-size, according to which nestlings of big families should have some disadvantage compared with those of small ones.

Goodacre, M. J. (Edward Grey Inst., Oxford, England.) THE ORIGIN OF WINTER VISITORS TO THE BRITISH ISLES / 4. STARLING (STURNIS VULGARIS). Bird Study 6 (4): 180-192, 22 maps. Dec. 1959. WR 102: 47

Most of the starlings that winter in the British Isles breed in northern Europe between 52° and 66°N and between 4° and 40°E. Those that breed in the north, winter furthest north in the British Isles, and those that breed furthest east, winter mainly in the east of the British Isles.--Mary F. Myers.

Hailman, Jack P. (4401 Gladwyne Drive, Bethesda, Md.) HOSTILE DANCING AND FALL TERRITORY OF A COLOR-BANDED MOCKINGBIRD. Condor 62(6): 464-468, 2 figs. Nov.-Dec. 1960. WR 102: 47

Based on observations of color-banded bird. Territoriality seemed to be primarily a means of insuring a food supply. Dancing is considered to be a hostile display used in territorial defense and probably has no relation to courtship.

Hanzak, Jan. ZUR OKOLOGIE DER GEBIRGSVÖGEL IN DER TSCHECHOSLOWAKEI. [ON THE BIOLOGY OF THE MOUNTAIN BIRDS IN CZECHOSLOVAKIA.] Proc. Intern. Ornithol. Congr. 12: 294-298. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 47

[In German.]

Hindwood, K. A. FEEDING ASSOCIATIONS AMONG BIRDS. Victorian Nat. 77(4): 92-95. 1960. [From Biol. Abstr. 36(5), 1961.] WR 102: 47

Examples are discussed of semi-commensalism or feeding associations ("autolycism"), particularly among Australian water birds. An example describes grebes closely following vegetarian coots, feeding on aquatic insects disturbed by movements of the latter.--P. A. Fryxell.

Irving, Laurence. (Arctic Health Res. Center, Anchorage, Alaska.) NUTRITIONAL CONDITION OF WATER PIPITS ON ARCTIC NESTING GROUNDS. Condor 62 (6): 469-472, 2 figs. Nov.-Dec. 1960. WR 102: 47

"On arrival at arctic nesting grounds at Anaktovuk Pass, Alaska, and Old Crow, Yukon Territory, male...Anthus spinoletta rubescens were three grams heavier and fatter than just before nesting.... While males lost weight during mating, females held or gained weight until after laying."--From summ.

Kuroda, N. H. [FIELD STUDIES ON THE GREY STARLING, STURNUS CINERACEUS TEMMINCK, 3. ROOSTING BEHAVIOUR FROM SUMMER TO AUTUMN (1. OBSERVATION IN THE EAST OF TOKYO, WITH NOTE ON FEEDING BEHAVIOUR).] Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 2(14): 18-29. 1960. [From Biol. Abstr. 36(2), 1961.] WR 102: 47

In Japanese with English summ. Observations on roosting behavior and change of roost during and after breeding are reported. Factors for selecting roost are as follows: (1) Safety and environment, (2) presence of both roosting and gathering places, (3) kind of plants, (4) size of roost, (5) correlation with flock size. Factors for change of roost may be: (1) Environmental factors (a) change of feeding grounds, (b) movement of the flock due to (a), (2) natural or human factors, (3) "special attraction," (4) overpopulation ("flooding effect"), (5) following effect and mono-flock preference (psychological).--From auth. abstr.

Leroy, Pierre. ACTION DE LA LUMIÈRE ET DE L'OBSCURITÉ SUR L'ACTIVITÉ TESTICULAIRE DES OISEAUX. [THE ACTION OF LIGHT AND DARK ON THE TESTICULAR ACTIVITY OF BIRDS.] Brotéria 28(2/3): 49-68. 1959. [From Biol. Abstr. 36 (3), 1961.] WR 102: 47

[In French.]

McDaniels, James C. THE WINTER BEHAVIOR OF THE ROBIN, TURDUS MIGRATORIUS LINNAEUS, IN AUBURN, ALABAMA. M.S. thesis, Auburn Univ. 1960. WR 102: 47

Rowell, C. H. Fraser. DISPLACEMENT GROOMING IN THE CHAFFINCH. Animal Behaviour 9(1&2): 38-63, 14 figs. Jan.-Apr. 1961. WR 102: 47

Rydzewski, W. A TENTATIVE ANALYSIS OF THE MIGRATIONAL POPULATIONS OF STARLING (STURNUS VULGARIS). Proc. Intern. Ornithol. Congr. 12: 641-644. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 48

Selander, Robert K., and Donald R. Giller. (Univ. Texas, Austin.) ANALYSIS OF SYMPATRY OF GREAT-TAILED AND BOAT-TAILED GRACKLES. Condor 63 (1): 29-86, 18 figs. Jan. 1961. WR 102: 48

A detailed comparative analysis of the morphology, ecology, and ethology of the morphologically similar Cassidix mexicanus and C. major in a 100-mile wide zone of sympatry on the coastal plain of the Gulf of Mexico. C. major is largely confined to coastal marshland in the breeding season, whereas C. mexicanus, which has a greater ecological range, occurs mainly in farmed prairie and other man-made habitats.--From summ.

Simmons, K. E. L. FOOT-MOVEMENTS IN PLOVERS AND OTHER BIRDS. Brit. Birds 54(1): 34-39. Jan. 1961. WR 102: 48

The various foot movements, "foot-trembling", "scraping", "marking-time", "foot-paddling", "jumping", and "pirouetting" are discussed and possible functions of these actions are suggested. In most cases they are believed to aid in obtaining food.--Mary F. Myers.

Swift, J. J. DENSITÉ DES NIDS ET NOTION DE TERRITOIRE CHEZ LE FLAMANT DE CAMARGUE. [DENSITY OF NESTS AND BEHAVIOR OF FLAMINGOES.] Alauda 28(1): 1-14. 1960. [From Biol. Abstr. 36(9), 1961.] WR 102: 48

[In French.] The flamingo colony (Phoenicopterus ruber roseus) on the Camargue Islands was investigated in 1959. A total of 3645 nests was counted. Nesting density was 1.3 nests/square m. Reasons postulated by the author for the high nesting densities observed in flamingoes are: (1) because of the remoteness of the nesting sites, flamingoes are rarely frightened into sudden flight and hence the need for take-off space is not critical and (2) more importantly, the need for social stimulation is apparently great and has survival value.--F. Bronson.

Swift, J. J. (Sta. Biologique de la Tour du Valat, Le Sambuc, France.) NOTES ON THE BEHAVIOUR OF WHISKERED TERNS. Brit. Birds 53(12): 559-572, 7 figs. Dec. 1960. WR 102: 48

Observations of whiskered terns (Chlidonias hybrida) in the Carmargue, France, were compared with the study of the black tern (C. nigra) by Baggerman et al. [WR 90: 72]. Comparisons were made of food and feeding behavior, reproductive behavior, incubation behavior, and other daily patterns.--Mary F. Myers.

Terrill, Lewis McIver. (Ulverton, Quebec, Canada.) COWBIRD HOSTS IN SOUTHERN QUEBEC. Canadian Field-Nat. 75(1): 2-11. Jan.-Mar. 1961. WR 102: 48

"Amongst the forty-two host species recorded for Quebec are three flycatchers, four thrushes, three vireos, fourteen warblers and eleven finches.... About one in eleven nests of known host species, is parasitized."

Tickell, W. L. N. CHICK FEEDING IN THE WANDERING ALBATROSS, DIOMEDEA EXULANS (LINNAEUS). Nature 185(4706): 116-117. 1960. [From Polar Record 10 (67), 1961.] WR 102: 48

"Disproving 'starvation' hypothesis and conclusion that breeding is biennial."

Wagner, Helmuth O. (Überseemus., Bremen, Germany.) NESTPLATZWAHL UND DEN NESTBAU AUSLÖSENDE REIZE BEI EINIGEN MEXIKANISCHEN VOGELARTEN. [CHOICE OF NESTING PLACE AND RELEASING STIMULI FOR NEST BUILDING IN SOME MEXICAN BIRDS.] Z. Tierpsychol. 16(3): 297-301, illus. 1959. [From Biol. Abstr. 36(3), 1961.] WR 102: 48

[In German.] In regions where the alternation of rainy and dry seasons determines the annual breeding cycle of birds, nest building seems to depend on finding a suitable place and material for nesting.--H. E. Adler.

Wilusz, Z. METHODS OF RESEARCH ON THE FOOD COMPOSITION OF CERTAIN PREDATORY BIRDS. Ekol. Polska, Ser. B (Warsaw) 4(4): 269-276, 2 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 49

In Polish with English summary. The results of several experiments are given on methods of examining the food composition of predatory birds: Strix aluco, Tyto alba and Milvus korschun. The method consisted in making it impossible for the young birds to consume the prey brought them by their parents. For this purpose special boxes were constructed and connected to the nest. The work gives the results of observation made during several years.

Wolfson, Albert. (Northwestern Univ., Evanston, Ill.) ROLE OF LIGHT IN THE PHOTOPERIODIC RESPONSES OF MIGRATORY BIRDS. Science 129(3360): 1425-1426. 22 May 1959. WR 102: 49

Light-dark cycles with 12-hour and 16-hour photoperiods are known to be effective in 24-hour cycles in inducing gonadal activity and fat deposition in migratory birds. Twenty-four-hour cycles with 16-hour dark periods are not effective. To test the role of the light periods and the dark periods in a given cycle, slate-colored juncos were subjected to light in cycles which combined stimulatory photoperiods and inhibitory dark periods at 5 different rates. The results indicate that the photoperiod determined the response.--From abstr.

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Bagenal, T. B., and D. E. Baird. (Marine Sta., Millport, England.) THE BIRDS OF NORTH RONA IN 1958, WITH NOTES ON SULA SGEIR. Bird Study 6(4): 153-174, 4 figs. Dec. 1959. WR 102: 49

A report of a study of the distribution of sea bird colonies on Rona and the results of a census of breeding species of land and sea birds. A systematic list of 38 species observed on Rona and 15 species on Sula Sgeir is given.--Mary F. Myers.

Bocheński, Z. OBSERVATIONS ON THE ORNITOFAUNA OF FISH PONDS AT GOLYSZ (SILESIA-CIESZYN DISTRICT). Zeszyty Naukowe Uniwersytetu Jagiellonskiego, Ser. Biol. Sci., Zoology (Cracow) 3: 203-222, 10 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 49

In Polish with English summary. Of 64 spp. of birds that were observed, 30 were water- and mud-loving birds. The distribution of hatching places on the ponds depends on the extent to which the pond is overgrown with reeds. The qualitative and quantitative composition of the bird colonies changes in successive hatching seasons. Mixed multispecies colonies are most frequently encountered (with a preponderance of Larus ridibundus).

Brooks, William S. (Ripon Coll., Ripon, Wis.) SONGBIRD COMMUNITIES OF TWO MARSH HABITATS. Passenger Pigeon 22(3): 111-125, 3 figs. July-Sept. 1960. WR 102: 49

A modification of the King method was used in the censusing of 2 adjacent habitats. The songbird density in the sedge-forb meadow habitat was 8.7+ birds per acre. The density in the willow shrub habitat was 15.1+ birds per acre. In the analysis of habitat, it was concluded that the additional cover, nest sites and materials, song perches, and food provided by the willow shrub habitat were accompanied by a corresponding rise in breeding bird density and species diversity, compared to that of the sedge-forb meadow.--From summ.

Dubinin, N. P., and T. A. Toropanova. [BIRDS OF THE FORESTS OF THE URAL RIVER VALLEY. PARTS II AND III.] Trud. Inst. Les. no. 32. 306 p., illus. 1956. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 6 Mar. 1961.] WR 102: 49

In Russian. An account of investigations in 1951 and 1952, together with a detailed characterization of the bird fauna of the whole region, noting the connections with forest typology. [See WR 100: 58 for Part I.]--Courtesy/ Frank M. Johnson.

Ferry, C. RECHERCHES SUR L'ECOLOGIE DES OISEAUX FORESTIERS EN BOURGOGNE. I. -L'AVIFAUNE NIDIFICATRICE D'UN TAILLIS SOUS FUTAIE DE QUERCATO-CARPINETUM SCILLETOSUM. [BREEDING FAUNA OF AN OAK-HORNBEAM ASSOCIATION.] Alauda 28(2): 93-123. 1960. [From Biol. Abstr. 36(9), 1961.] WR 102: 50

[In French.] Birds were counted in 42 plots of oak-hornbeam association from 1956 through 1959. In general the number of species increased with the age of the plot as did total density (all species combined) and biomass. The proportion of migrating species in the total number decreased with age of plot.--From abstr. by F. Bronson.

Korotkevich, Ye. S. [ORIGIN OF THE BIRDS OF THE ANTARCTIC.] Problemy Arktiki i Antarktiki 1960(2): 95-103. 1960. [From Polar Record 10(67), 1961.] WR 102: 50

In Russian. "Origins of true Antarctic species, based on present and former distributions."

Sokołowski, I. BIRDS OF POLAND. (VOLUMES I AND II.) Państwowe Wydawnictwo Naukowe (Warsaw) I: 442 p., 136 figs.; II: 570 p., 175 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 50

Biological and ecological notes with descriptions of the different species.

BIRDS--POPULATIONS & FLUCTUATIONS

Brown, Woodward W. (4815 Ingersolls Ave., Des Moines, Iowa.) FORMER ABUNDANCE AND PRESENT STATUS OF THE UPLAND PLOVER IN IOWA: A COOPERATIVE STUDY. Iowa Bird Life 30(2): 31-37 + 1 pl. June 1960. WR 102: 50

Although upland plover are increasing on a nation-wide basis, a decrease is noted for Iowa.

Deramond, M. LA DYNAMIQUE DES POPULATIONS [DES OISEAUX] A LA LUMIERE DES TRAVAUX RECENTS. [POPULATION DYNAMICS IN THE LIGHT OF RECENT STUDIES.] Alauda 27(3): 161-198. 1959. [From Biol. Abstr. 36(9), 1961.] WR 102: 50

[In French.] A preview paper containing a bibliography of 101 titles. Reproduction, mortality and movement control population size in birds. Many populations maintain a relatively stable reproductive rate and mortality varies. Limitation of food supply is apparently the primary limiting factor in most bird populations. Predation and disease may assume dominant positions in gallinaceous birds.--F. Bronson.

Dobrowolski, K., Z. Pielowski, J. Pinowski, and A. Wasilewski. INFLUENCE OF VARIATIONS IN THE BIOLOGY OF RAVEN (CORVUS CORAX L.) -- NESTING IN THE IMMEDIATE NEIGHBOURHOOD OF MAN -- ON THE NUMBERS AND DISTRIBUTION OF POPULATIONS OF THIS SPECIES. Ekol. Polska, Ser. A (Warsaw) 6(5): 167-182, 3 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 50

In German with Polish summary. The numbers of the raven decreased halfway through the preceding century, and it was not until a few years ago that an increase in its numbers was noticeable. The fact of raven nesting near towns and villages is noted in Poland for the first time. The authors put forward the theory of the division of the species into two populations: "wild" -- which occupies original nesting sites or dies out, and synanthropic, which having rid itself of its "fear" of man nests near human habitations. The population in the outskirts of Warsaw which exhibits a continual increase, is such a population.

Erz, Wolfgang. DER VOGELBESTAND IN WOHNVIERTEL EINER GROSSTADT IM WESTFALISCHEN INDISTRIEGEBEIT. [POPULATION OF BIRDS IN RESIDENTIAL PARTS OF A LARGE INDUSTRIAL CITY IN WESTFALIA.] Ornithol. Mitt. 11(12): 221-227. 1959. [From Biol. Abstr. 36(2), 1961.] WR 102: 50

[In German.] Density of birds in a thickly-settled residential area (8.5 ha) of Dortmund was determined during 3 years to be 6.5-7.5 pairs per ha in the breeding season. About 85% of birds were House Sparrows. Maximum numbers occurred from Dec. to Feb.; lowest in Sept. Winter populations of other species are extremely variable. Areas lacking vegetation have few species (0.7 species per ha) presumably due to scarcity of nesting sites.--D. E. Davis.

Hudec, Karel. EINIGE GESICHTSPUNKTE ZUR NEUZEITLICHEN AUSBREITUNG UND VERSTÄDTERUNG DER SAATKRÄHE (CORVUS FRUGILEGUS) IN DER TSCHECHOSLOWAKEI. [SOME VIEWS ON THE RECENT EXTENSION AND ESTABLISHMENT OF THE CROW IN CZECHOSLOVAKIA.] Proc. Intern. Ornithol. Congr. 12: 327-331, map. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 51
[In German.]

Keve, A. (Ungarisches Ornithol. Inst., Budapest, Hungary.) VARIATIONS-STUDIEN ÜBER DIE POPULATIONEN DES HAUSSPERLINGS, PASSER DOMESTICUS DOMESTICUS L. [VARIATION STUDIES ON THE POPULATIONS OF HOUSE SPARROWS.] Proc. Intern. Ornithol. Congr. 12: 376-395, illus. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 51
[In German.]

Kirikov, S. LES CHANGEMENT DANS LA DISTRIBUTION DES OISEAUX DE LA PARTIE EUROPÉENNE DE L'UNION SOVIÉTIQUE AUX XVIIe--XIXe--SIÈCLES. [CHANGES IN THE DISTRIBUTION OF BIRDS OF THE EUROPEAN PART OF THE SOVIET UNION IN THE 17TH AND 18TH CENTURIES.] Proc. Intern. Ornithol. Congr. 12: 404-421, maps. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 51
[In French.]

McKean, John L. MOVEMENT OF CATTLE EGRETS. Emu 60(3): 202. 1960. [From Biol. Abstr. 36(9), 1961.] WR 102: 51
Of the many hypotheses advanced, current findings seem to confirm the theory that the cattle egrets are wind-borne across the Atlantic, a distance of not less than 1800 miles. The author reports an instance of a cattle egret banded in 1956 as a nestling at the Coto Doñana, Spain, recovered in Trinidad. --MDS.

Parrinder, E. R. THE LITTLE RINGED PLOVER IN GREAT BRITAIN DURING 1957-59. Brit. Birds 53(12): 545-553. Dec. 1960. WR 102: 51
The status of the little ringed plover (Charadrius dubius) is given by year for each of the 24 counties in which it has bred.--Mary F. Myers.

Walkinshaw, Lawrence H., and Dale A. Zimmerman. (Battle Creek, Mich.) RANGE EXPANSION OF THE BREWER BLACKBIRD IN EASTERN NORTH AMERICA. Condor 63 (2): 162-177, 3 figs. Mar.-Apr. 1961. WR 102: 51
"During the 20th century the Brewer Blackbird has extended its breeding range eastward through the Great Lakes Region to Sault Ste. Marie, Ontario, and to central, and possibly eastern, lower Michigan. In migration and winter it now appears on the Atlantic seaboard from New York to Key West, Florida. Since the mid-1930's it has apparently become rather regular, and at times common, in the Gulf states in winter."--From summ.

BIRDS--ECONOMICS, CONTROL, MORTALITY

Bartel, Karl E. (2528 Collins St., Blue Island, Ill.) JAPANESE BEETLE CONTROL AND EFFECT ON BIRDS. Turtox News 38(11): 280-283. 1960. [From Biol. Abstr. 36(5), 1961.] WR 102: 51
Destruction of birds after airplane treatment of 25 sq miles with heptachlor is analyzed and hazards are discussed.--R. W. Dexter.

Bruns, Herbert. (Staatl. Vogelschutzwarte, Hamburg, Germany.) THE ECONOMIC IMPORTANCE OF BIRDS IN FORESTS. Bird Study 7(4): 193-208, Dec. 1960. WR 102: 51
Though birds consume large numbers of insect pests, there is no evidence to suggest that the proportion increases when a plague develops. The birds' chief function is to prevent outbreaks rather than to cure them. If the biological forces (birds, bats, ants, parasites, etc.) are conserved, then chemical control of insects will be needed only in exceptional circumstances. There are 68 references.--Mary F. Myers.

Bruns, Herbert, and Axel Haberkorn. (Staatl. Vogelschutzwarte, Hamburg, Germany.) BEITRAGE ZUR ERNAHRUNGSBIOLOGIE DES STARS (STURNUS VULGARIS). [STUDIES ON FOOD HABITS OF STARLINGS.] Ornithol. Mitt. 12(5): 81-103. 1960. [From Biol. Abstr. 36(7), 1961.] WR 102: 52

[In German.] The food consists primarily of insects. Damage to crops is very local according to reports from Europe and America.--D. E. Davis.

Coulson, J. C. (Univ. Durham, England.) A STUDY OF THE MORTALITY OF THE STARLING BASED ON RINGING RECOVERIES. J. Anim. Ecol. 29(2): 251-271, 6 figs. Nov. 1960. WR 102: 52

Based on 7000 recoveries, the estimated mortality rate of the starling in Great Britain is 52.8 ± 1.0%. No significant difference noted for different regions nor for foreign starlings wintering in Great Britain. First year birds experience a greater mortality in their first autumn and winter, which is compensated by a probable lower mortality during the following spring. At the end of the birds' first year there is a predominance of ♂♂, which is explained by a ♂ mortality of 39% and a ♀ mortality of 70%. This differential mortality probably arises through more first-year ♀♀ than ♂♂ breeding in their first year.--From summ.

Harrison, C. J. O. THE FOOD OF SOME URBAN TAWNY OWLS. Bird Study 7(4): 236-240. Dec. 1960. WR 102: 52

Previous studies on the food of the tawny owl in woodland habitats showed that mammals comprise about 95% of prey taken; birds--5%. According to pellets and remains, the prey of a pair of owls in urban London was 96% birds. This may be the natural type of predation in urban areas where birds are the most available prey.--Mary F. Myers.

Koblet, W. DER VOGELSCHADEN--EIN PROBLEM IN UNSEREN OBSTANLAGEN. [BIRD DEPREDATION--A PROBLEM IN OUR ORCHARDS.] Schweiz. Z. f. Obst U. Weinbau 69(24): 563-564. 26 Nov. 1960. [From Bibliog. Agr. 25(3), 1961.] WR 102: 52

MacLellan, C. R. (Canadian Agr. Res. Sta., Kentville, Nova Scotia.) WOODPECKER CONTROL OF THE CODLING MOTH IN NOVA SCOTIA ORCHARD. Atl. Nat. 16 (1): 17-25, illus. Jan.-Mar. 1961. WR 102: 52

This article combines 2 earlier papers--see WR 91: 81 and WR 99: 43. In 1950-6, hairy woodpeckers and northern downy woodpeckers reduced overwintering larval populations of codling moths in tree trunks by 52%. For orchards to benefit best from woodpecker control of pests, they should be near good woodpecker habitat, with woods nearby to provide food and shelter.

Obrazcov, B. V., and G. E. Korol'kova. [THE FOOD OF BIRDS IN SUMMER AND AUTUMN IN THE TELLERMAN EXPERIMENTAL FOREST.] Trud. Inst. Les. no. 16. p. 192-209. 1954. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 4 Apr. 1961.] WR 102: 52

In Russian. Tabulated results of stomach analyses of 27 spp. of birds which were useful in insect control.--Courtesy/Frank M. Johnson.

Snyder, Donald B. (Ohio Coop. Wildl. Res. Unit, Columbus.) STRYCHNINE AS A POTENTIAL CONTROL FOR REDWINGED BLACKBIRDS. J. Wildl. Mgmt. 25(1): 96-98. Jan. 1961. WR 102: 52

The median LD of strychnine sulfate orally administered to wild-trapped redwings was 3.98 mg/kg and the LD_{95} dosage was 6.48 mg/kg. Experimental baiting with cracked corn and whole oats in various habitats was unsuccessful during the corn-damage season.--From summ.

Thomas, H. A. SOME EXPERIMENTS WITH SUPERSONIC SOUND AND BIRDS AT LIVERPOOL CATHEDRAL. Merseyside Nat. Assoc. / Bird Rept. 1953-54. p. 26-28. 1954. WR 102: 52

In an attempt to prevent birds from roosting on the porch of the cathedral, an electronically-operated generator was set up with supersonic energy directed onto the balustrades. This experiment demonstrated that the pigeons will not remain where a reasonable level of supersonic energy exists. Experiments indicated that 100 watts of acoustic energy at 20,000 cycles/second could keep pigeons entirely away from a building.--Mary F. Myers.

Turcek, F. J. (For. Res. Inst., Czechoslovakia.) ON THE DAMAGE BY BIRDS TO POWER AND COMMUNICATION LINES. Bird Study 7(4): 231-236. Dec. 1960. WR 102: 53

In general, transmission lines are ecologically advantageous to birds, but in many cases the birds' adaptations are harmful to man economically. Damage to poles by woodpeckers throughout the whole Holarctic region is stressed.--Mary F. Myers.

BIRDS--PARASITES AND DISEASES

Basova, N. N., Y. G. Suchkov, V. M. Gusev, and M. M. Rudney. [PSITTACOSIS IN WILD AND DOMESTIC BIRDS IN THE CAUCASUS.] J. Microbiol. (Moscow) no. 9: 3-7. 1960. [From abstr. in Vet. Bull. 31(1), 1961.] WR 102: 53

In Russian with English summary. Sera were collected from 263 birds of 17 species; 23 contained c. f. antibodies. Sera from 8 of 12 pigeons in a laboratory colony were also positive.--R.M.

Bassini, Ettore. PIROPLASMOSI ED ENTERO-EPATITE IN GALLINACEI E TINAMIDI. [PIROPLASMOSIS AND ENTEROHEPATITIS IN GALLINACEAE AND TINAMIDAE.] Ric. Zool. Appl. Caccia 30: 5-16, illus. 1959. [From Biol. Abstr. 36(6), 1961.] WR 102: 53

[In Italian] with English, French, and German summaries. History of avian piroplasmosis is reviewed with a description of cases of egyptianellosis associated with histomoniasis in Francolinus francolinus, F. erckelii, and Alectoris chukar.--From auth. summ.

Bennett, G. F. (Ontario Res. Foundation, Toronto 5, Canada.) ON THE LIFE HISTORY OF THREE SPECIES OF HIPPIBOSCIDS [sic] OCCURRING ON ONTARIO BIRDS. J. Parasitol. 45(4--sect. 2): 32-33. Aug. 1959. WR 102: 53

Title and abstract only. A study of 2200 birds of 81 spp.

Bennett, G. F., and A. M. Fallis. (Ontario Res. Foundation, Toronto 5, Canada.) BLOOD PARASITES OF BIRDS IN ALGONQUIN PARK, CANADA, AND A DISCUSSION OF THEIR TRANSMISSION. J. Parasitol. 45(4--sect. 2): 33. Aug. 1959. WR 102: 53

Title and abstract only. Based on a study of 1954 adult and juvenile birds of 80 spp.

Brooks, Derl Len, and R. W. Strandtmann. (Texas Technol. Coll., Lubbock.) THE NASAL MITES (ACARINA) OF SOME WEST TEXAS FLYCATCHERS (TYRANNIDAE). J. Parasitol. 46(4): 418-432, 48 figs. Aug. 1960. WR 102: 53

Six spp. of nasal mites were found during the examination of ectoparasites taken from 10 spp. of tyrant flycatchers in west Texas.

Clark, Gordon Marston. (Patuxent Wildl. Res. Center, Laurel, Md.) SARCOCYSTIS IN CERTAIN BIRDS. J. Parasitol. 44(4--sect. 2): 41. Aug. 1958. WR 102: 53

Title and abstract only. In the black duck, great blue heron, slate-colored junco, eastern meadowlark, redwinged blackbird, and the common grackle.

Ellis, Charles J. (Iowa State Teachers Coll., Cedar Falls.) MICROTETRAMERES IN THE BRONZED GRACKLE AND THE EASTERN MEADOWLARK. J. Parasitol. 47(1): 37. Feb. 1961. WR 102: 53

Farmer, John N. (Univ. Mo., Columbia.) SOME BLOOD PARASITES FROM BIRDS IN CENTRAL IOWA. Proc. Iowa Acad. Sci. 67: 591-597. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 53

During 1957, 1958, and 1959, blood smears from 568 birds were examined. Ninety-nine (17.25%) of these birds were found to harbor haemosporidian parasites. Four species of birds harbored Plasmodium, four species were infected with Leucocytozoon, and five species with Haemoproteus. Trypanosomes and microfilariae were observed in two species.--Author.

Hyland, Kerwin E., and Hedwig Geiger Ford. (Univ. R. I., Kingston.) STERNOSTOMA SIALIPHILUS N. SP. (ACARINA: RHINONYSSIDAE) FROM THE NASAL CAVITIES OF THE EASTERN BLUEBIRD, SIALIA SIALIS (LINNAEUS). J. Parasitol. 47(1): 101-103 + 5 figs. on 1 pl. Feb. 1961. WR 102: 53

Joszt, L. HELMINTOFAUNA OF THE HOUSE SPARROW (PASSER DOMESTICUS L.) ON THE WARSAW DISTRICT (PRELIMINARY REPORT). Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomosci Parazytol. (Warsaw) 4(5-6): 689-690. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 54

Text in Polish and English. It was found that the greatest infestation is by nematoda and that this is subject to variation during the yearly cycle.

Locke, Louis N. (Patuxent Wildl. Res. Center, Laurel, Md.) THE SUSCEPTIBILITY OF THE CARDINAL, RICHMONDENA CARDINALIS (L.), TO TRICHOMONAS GALLINAE FROM A MOURNING DOVE, ZENAIDURA MACROURA (L.). J. Parasitol. 47(1): 76. Feb. 1961. WR 102: 54

Manter, H. W., and Raymond Snyder. (Univ. Nebr., Lincoln.) PSEUDOCHOANOTAENIA (CESTODA) IN A CHIMNEY SWIFT (CHAETURA PELAGICA) IN NORTH AMERICA. J. Parasitol. 47(2): 230. Apr. 1961. WR 102: 54

Pande, B. P., P. Rai, and J. S. Srivastava. (Govt. Vet. Coll., Mathura, U.P., India.) A NOTE ON SOME PATHOGENIC EFFECTS OBSERVED IN CERTAIN NEMATODE INFECTIONS OF WILD AQUATIC BIRDS WITH REMARKS ON ITS SIGNIFICANCE. Poultry Sci. 39(5): 1121-1125, illus. 1960. [From Biol. Abstr. 36(4), 1961.] WR 102: 54

After outlining the previous work, mostly from abroad, on the pathogenic effects in infections of poultry with important representative species of Spiruroidea and the genus Capillaria, the authors, in a survey of nematode infestations of wild aquatic birds, deal with Tetrameres spinosa, Synhimantus (Desportesius) canadensis, and Capillaria columbae.--From abstr. by B. P. Pande.

Pemberton, R. T. (Univ. Leeds, England.) HELMINTH PARASITES OF SOME BRITISH BIRDS. Ann. & Magazine Nat. Hist. (London) ser. 13, vol. 3, no. 32, p. 455-463, 1 fig. Aug. 1960. WR 102: 54

A survey of the helminth parasites of 106 birds belonging to 18 spp.

Rybicka, K. TAPEWORMS OF BIRDS (EXCL. ANSERIFORMES) AT LAKE DRUZNO. (PARASITOFAUNA OF THE BIOCENOSIS OF LAKE DRUZNO -- PART IV.) Acta Parasitol. Polonica (Warsaw) 6(4): 143-178, 11 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 54

In Polish with English summary. The state of infestation is given for 140 birds belonging to 38 spp.; in addition there is an extensive systematic section.

Spasskaya, L. P. [CESTODES IN BIRDS IN THE KOMI A.S.S.R.] Acta Vet. (Budapest) 8(2): 173-185. 1958. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 54

In Russian with German summary. In an examination of 961 birds of 81 spp., 547 specimens had helminths. Incidence ranged from 5.5% to 78% among the host orders and was highest among Charadriiformes (78%) and slightly lower among Galliformes (75%) and Anseriformes (72%).

Sulgostowska, T. FLUKES OF BIRDS OF DRUZNO LAKE. (PARASITOFAUNA OF THE BIOCENOSIS OF DRUZNO LAKE -- PART III.) Acta Parasitol. Polonica (Warsaw) 6(3): 111-142. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 54

In English with Polish summary. Infection by trematoda was found in 50% of 285 birds belonging to 45 spp. that were examined. The degree of infection is given for different birds. Representatives of 43 spp. of trematoda were found. The typical spp. for the lake biocenosis were defined.

Sulgostowska, T. TREMATODA IN BIRDS OF LAKE MAMRY. Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomosci Parazytol. (Warsaw) 4(5-6): 691-692. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 54

Text in Polish and English. In 36 spp. of birds, 52 spp. of trematoda were found. It was established which spp. are typical of the biocenosis of this lake.

Sulgostowska, T. (Zakład Zoologii, S.G.G.W., Warsaw, Poland.) INTESTINAL TREMATODES OF BIRDS OF MESOTROPHIC LAKES: GOŁDAPIWO AND MAMRY PÓŁNOCNE. Acta Parasitol. Polonica 8(1/7): 85-114. 1960. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 55

In English with Polish summary. An examination of 652 birds (47 spp.) revealed that 72.7% were found infected with trematodes. The trematode fauna (36 spp.) is considered in relation to the availability of final and intermediate hosts, host diet, and to seasons.

Ulmer, Martin J. (Iowa State Coll., Ames.) AVIAN SCHISTOSOMES OF THE GENUS ORNITHOBILHARZIA AT LAKE OKOBOJI, IOWA. J. Parasitol. 45(4--sect. 2): 19. Aug. 1959. WR 102: 55

Title and abstract only.

Wells, Mary Jane, and Wanda Sanborn Hunter. (Duke Univ., Durham, N. C.) HELMINTHS OF THE YELLOWTHROAT, GEOTHLYPIS TRICHAS, DURING MIGRATION. J. Parasitol. 46(5): 623. Oct. 1960. WR 102: 55

Parasites included 2 spp. of trematodes, 2 spp. of cestodes, 2 spp. of acanthocephalans, and 4 spp. of nematodes.

Wilson, Nixon. (Purdue Univ., Lafayette, Ind.) ECTOPARASITES OF THE HOUSE SPARROW, PASSER DOMESTICUS (L.), IN KENTUCKY. J. Parasitol. 44(5): 545. Oct. 1958. WR 102: 55

Złotorzycka, J. MALLOPHAGA FROM BIRDS ON LAKE SUMINY IN THE BYTOW DISTRICT IN POMERANIA. Material from VI Congr. Polish Parasitol. Soc., Lublin, 19-22 Oct. 1958. Wiadomości Parazytol. (Warsaw) 4(5-6): 787-789. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 55

Text in Polish and English. Using the specific composition as a basis, the degree of typicalness was determined for the different species of parasite in relation to the different species of host.

GAME BIRDS--GENERAL

I.C.I. Game Services. HATCHING GAME BIRDS' EGGS UNDER BROODIES. I.C.I. Game Res. Sta. (Fordingbridge, Hampshire, England) Advisory Booklet no. 11A. 19 p., illus. 2nd rev. ed. Autumn 1960. WR 102: 55

The spring 1958 revision included a section on artificial incubation. The current revision deals solely with the use of broodies for hatching game birds' eggs. Artificial incubation is the subject of booklet 11B of this series.

Spasski, A. A., and M. D. Sonin. (Lab. Helminthol., Acad. Sci. USSR, Moscow.) ORNITHOFILARIA TUVENSIS, SP. N., A NEW FILARIA FROM THE SUBCUTANEOUS TISSUE OF GALLINACEOUS BIRDS. Acta Vet. (Budapest) 8(4): 305-315. 1958. [From Helminthol. Abstr. 30(1), 1961.] WR 102: 55

The species is very common, occurring in 18 of 19 Perdix daurica, 10 of 13 Lyrurus tetrix, 2 of 4 Tetrao urogallus, and 1 of 10 Lagopus mutus. No specimens were found in 10 Tetrastes bonasia or in 4 Tetrao gallus. Ornithofilaria tuvensis was found only in Galliformes.

QUAIL

Gullion, Ardelle M. (Cloquet, Minn.) WEIGHT VARIATIONS OF CAPTIVE GAMBEL QUAIL IN THE BREEDING SEASON. Condor 63(1): 95-97, 1 fig. Jan. 1961. WR 102: 55

Hanson, William R., and Ross J. Miller. (Ill. Nat. Hist. Survey, Urbana.) EDGE TYPES AND ABUNDANCE OF BOBWHITES IN SOUTHERN ILLINOIS. J. Wildl. Mgmt. 25(1): 71-76, 1 fig. Jan. 1961. WR 102: 56

Bobwhite populations were not correlated with the aggregate of all kinds of edge because many of the kinds were not useful. Edge between brushy pastures and cultivated fields was the most used type. Where hedges are needed, at least 3 should be established, about 100 to 200 yards or less apart, on pastures or other areas containing ungrazed or moderately grazed grass near cultivated areas.--From summ.

Menzel, Karl E. (Nebr. Game, Forestation, and Parks Comm., Lincoln.) INTRODUCTION AND INVESTIGATIONS OF COTURNIX COTURNIX SSP. IN NEBRASKA. FINAL REPORT. Nebr. Game, Forestation, and Parks Comm., P-R Project W-30-R-3, Job no. 5-39. 24 p. 1960. WR 102: 56

Nebraska attempted to establish coturnix in ecological niches unsuited to other game species. During 1957-9, releases of 77,114 birds were made. Considerable numbers of the birds died shortly after release. Mortality probably reached forty percent or more in some areas. Indicated annual population turnover, based on 61 band returns, was 91.8 percent which compares favorably with the 90 percent turnover for the Old World. The majority of birds migrated, largely in southeasterly directions. There were indications, but no positive evidence, of return migration. Observations of nests, broods, and unbanded birds indicated significant reproduction by released birds. Clutch size of incubated nests was 7.7, and 88 percent of the eggs examined were fertile.--From auth. abstr.

Padgett, Carol Ann, and William D. Ivey. (Auburn Univ., Auburn, Ala.) COTURNIX QUAIL AS A LABORATORY RESEARCH ANIMAL. Science 129(3344): 267-268. 30 Jan. 1959. WR 102: 56

Abstract: The Coturnix quail is recommended to interested investigators, especially to embryologists and physiologists, for use in research because of its hardiness, ease of handling, precociousness, and great laying ability.

Stempel, M. E. (State Conserv. Comm., Ottumwa, Iowa.) QUAIL HATCHING AND PRIMARY FEATHER MOULT IN ADULTS. Proc. Iowa Acad. Sci. 67: 616-621. 1960. [From Biol. Abstr. 36(8), 1961.] WR 102: 56

This study was made to determine causes of changes in the young to adult ratio in quail shot by Iowa hunters. A total of 13,206 wings was collected from 1952 to 1959. Age of young and stage of moult in adults were determined by primary feather development. The hatching period was indicated by the age of young. Early brooding adults were first to mature the flight feathers. Late moulting adults were poor flyers and were easily taken by hunters.--Author.

Stevens, Vernon C. (Ohio Coop. Wildl. Res. Unit, Columbus.) EXPERIMENTAL STUDY OF NESTING BY COTURNIX QUAIL. J. Wildl. Mgmt. 25(1): 99-101. Jan. 1961. WR 102: 56

An enclosure study. Calling was closely associated with nesting during the nesting season. A hatching success of 67.1% was observed. Although no young-of-the-year nested, 4 adult birds produced 2 broods and 2 adult birds produced 3 broods during the same season. Rainfall was inversely correlated with hatching success but showed no relationship with egg temperatures or nest attentiveness.--From summ.

PHEASANTS

I.C.I. Game Services. ANNUAL REPORT (1959) OF WORK DONE BY SCIENTISTS, ADVISORY AND FIELD STAFF OF THE I.C.I. GAME RESEARCH STATION. I.C.I. Game Res. Sta. (Fordingbridge, Hampshire, England.). 1-60 p., illus. 1960. WR 102: 56

"This report covers the fourteenth and last season of our post-war experimental game estate in Hampshire, as well as work carried out at Burgate Manor and elsewhere.... The most remarkable feature of recent years is the steady increase in pheasant rearing, particularly by owners of the smaller shoots.... Pheasant rearing increased by 44% between 1956 and 1959...[and] partridge rearing has more than doubled in the same period."

PHEASANTS--Continued

Lyon, Leonard Jack. AN EVALUATION OF THE INFLUENCES OF WOODY HABITAT-IMPROVEMENT PLANTINGS ON PHEASANTS IN NORTHEASTERN COLORADO. Ph.D. thesis, Univ. Mich. 205 p. 1960. [Long abstr. in Dissertation Abstr. 21(8), 1961.] WR 102: 57

See WR 98: 55 for a review of a technical article based on this study.

Morejohn, G. Victor, and Richard E. Genelly. (Univ. Calif., Davis.) PLUMAGE DIFFERENTIATION OF NORMAL AND SEX-ANOMALOUS RING-NECKED PHEASANTS IN RESPONSE TO SYNTHETIC HORMONE IMPLANTS. Condor 63(2): 101-110, 3 figs. + 1 pl. Mar.-Apr. 1961. WR 102: 57

The responses to implantation of the hormones, synthetic diethylstilbestrol and testosterone proprionate, in ring-necked pheasants demonstrated that plumage differentiation of both sexes is dependent upon genetic as well as hormonal factors.--From summ.

Nelson, Maynard M. (Minn. Dept. Conserv., St. Paul 1.) SHORTCHANGING THE PHEASANT HUNTER. Conserv. Volunteer 24(139): 20-24. Jan.-Feb. 1961. WR 102: 57

Attempts at lengthening the Minn. hunting season so that additional 200,000 to 300,000 Minn. pheasants may be harvested annually have been thwarted by "well-meaning sportsmen." Minn. studies reveal that "(1) hunting is not a major mortality factor affecting pheasant production, (2) short hunting seasons, one to three weeks, result in a waste of surplus cocks, and (3)" these facts should be used to provide more hunting for the hunter.

GROUSE, PARTRIDGE, ETC.

Blank, T. H., and J. S. Ash. (I.C.I. Game Res. Sta., Fordingbridge, Hampshire, England.) SOME ASPECTS OF CLUTCH SIZE IN THE PARTRIDGE (PERDIX PERDIX). Proc. Intern. Ornithol. Congr. 12: 118-126. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 57

Clutch size decreases with the advance of the season. Repeat clutches are smaller than first. There is marked annual and local variation, but this does not follow any trend. There is no significant regional variation within England. There is no correlation between clutch size and breeding density. There is some evidence that older birds lay smaller clutches.

Dorney, Robert S., and A. C. Todd. (Univ. Wis., Madison.) SPRING INCIDENCE OF RUFFED GROUSE BLOOD PARASITES. J. Parasitol. 46(6): 687-694, 1 fig. Dec. 1960. WR 102: 57

Summary: Observed infections in blood smears collected from ruffed grouse in fall, winter, and spring were interpreted to indicate increased incidence of Haemoproteus, Leucocytozoon, Trypanosoma, and microfilaria in spring. Leucocytozoon and Haemoproteus were essentially absent in blood smears made in February, but were found in increasing numbers from March to June. This increased occurrence of blood protozoa and microfilaria in the breeding season provides an ideal epozootiological link between infection in adults and newly hatched chicks. Concurrent field information on production and survival of ruffed grouse indicated little evidence of direct large-scale mortality due to these blood protozoa.

Edwards, Malcolm G. (Chattahoochee Natl. Forest, Box 643, Gainesville, Ga.) NEW USE OF FUNNEL TRAP FOR RUFFED GROUSE BROODS. J. Wildl. Mgmt. 25(1): 89. Jan. 1961. WR 102: 57

A brief description of a grouse brood trapping technique which is effective until the young develop flight powers.

Fediushin, A. V. [THE WILLOW PTARMIGAN IS A POTENTIAL ORCHARD PEST.] Priroda (Moscow) 1958(3): 113-114. Mar. 1958. [From Bibliog. Agr. 24(10), 1960.] WR 102: 57

In Russian.

Gudmundsson, Finnur. SOME REFLECTIONS ON PTARMIGAN CYCLES IN ICELAND. Proc. Intern. Ornithol. Congr. 12: 259-265. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 57

Gupta, Ramesh. (Kanya Kubja Coll., Lucknow, India.) ON A NEW TREMATODE, EUPARADISTOMUM FRANCOLINI N. SP. (DICROCOELLIIDAE) FROM THE GALL BLADDER OF A BLACK PARTRIDGE. Proc. Natl. Acad. Sci. India 29(4): 197-200, illus. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 58

Hoffmann, Robert S. (Mont. State Univ., Missoula.) THE QUALITY OF THE WINTER FOOD OF BLUE GROUSE. J. Wildl. Mgmt. 25(2): 209-210, 1 fig. Apr. 1961. WR 102: 58

From data presented it is indicated "that blue grouse, as 'cyclic' herbivores, have a winter diet of, at best, low quality but abundant quantity. The ability to subsist on a diet of the low quality provided by fir needles suggests considerable digestive efficiency of the blue grouse. This efficiency probably resides in both physiological and morphological adaptations."

Kingston, Newton. (Ontario Res. Foundation, Toronto 5, Canada.) PRELIMINARY REPORT ON THE LIFE HISTORIES OF A LIVER- AND A KIDNEY-FLUKE FROM THE RUFFED GROUSE IN ALGONQUIN PARK, ONTARIO. J. Parasitol. 44(4--sect. 2): 12-13. Aug. 1958. WR 102: 58

Title and abstract only.

McKinley, Daniel. (Salem Coll., Winston-Salem, N. C.) HISTORY OF THE RUFFED GROUSE IN MISSOURI. Bluebird 27(4): 3-11. Winter 1960. WR 102: 58

A review of the decline of the ruffed grouse in Mo.

Moulthrop, Irwin M., and Betty Anne Gordy. (Md. Livestock Sanitary Serv. Lab., Salisbury, Md.) EASTERN VIRAL ENCEPHALOMYELITIS IN CHUKAR (ALECTORIS GRAECA). Avian Diseases 4(4): 380-383. Nov. 1960. WR 102: 58

The virus of eastern viral encephalomyelitis was isolated from a group of chukar partridge reared on a game farm.--From summ.

Salt, W. Ray. (Univ. Alberta, Edmonton, Canada.) SARCOCYSTIS RILEYI IN SAGE GROUSE. J. Parasitol. 44(5): 511. Oct. 1958. WR 102: 58

Sarcocystis has been noted in the red-legged partridge, the pheasant, and now in the sage grouse.

Smith, Ronald H. (Ariz. Game & Fish Dept., Phoenix.) AGE CLASSIFICATION OF THE CHUKAR PARTRIDGE. J. Wildl. Mgmt. 25(1): 84-86, 1 fig. Jan. 1961. WR 102: 58

An adaption of Eng's technique on sage grouse [see WR 81: 46] to chukar partridge that is useful from Aug. to late Nov.

Stokes, Allen W. (Utah State Univ., Logan.) VOICE AND SOCIAL BEHAVIOR OF THE CHUKAR PARTRIDGE. Condor 63(2): 111-127, 2 figs. Mar.-Apr. 1961. WR 102: 58

Based upon a 4-year study. Fourteen calls of adults were classified according to their association with alarm, social contact, agonistic, or sexual situations. Courtship displays appeared to be the resultant of the relative and absolute strengths of the attack, escape, and sexual tendencies of the ♂, and to a lesser extent those of the ♀.--From summ.

Wilke, L. A. WE HOLD THEIR FUTURE IN OUR HANDS. Texas Game & Fish 19(3): 4-5, 27, illus. Mar. 1961. WR 102: 58

The Attwater prairie chicken is facing extinction unless drastic steps can be made for its protection. A half century ago the estimated population was more than a million. Now, in Texas, known concentrations are found in only 4 areas of the coastal prairies. Management proposals include using devices to supply surface water, intensive control of all egg-eating predators, and restocking.

TURKEY

McKeever, Sturgis. (Univ. Calif., Davis.) THE OCCURRENCE OF RHOPALIAS MACRACANTHUS (TREMATODA: RHOPALIASIDAE) IN THE WILD TURKEY (MELEAGRIS GALLOPAVO). J. Parasitol. 47(1): 60. Feb. 1961. WR 102: 59
Flukes of this genus are intestinal parasites of various opossums.

DOVES AND PIGEONS

Chambers, Glenn D. A STUDY OF WINTERING FLOCKS OF MOURNING DOVES IN MISSOURI. M.S. thesis, Univ. Mo. 86 p. 1961. WR 102: 59

Frankel, Arthur. AN ANALYSIS OF THE SONG AND OTHER BEHAVIORAL ASPECTS OF PENNED MOURNING DOVES (ZENAIDURA MACROURA). M.S. thesis, Univ. Mo. 145 p. 1961. WR 102: 59

Harris, Stanley W. (Humboldt State Coll., Arcata, Calif.) MIGRATIONAL HOMING IN MOURNING DOVES. J. Wildl. Mgmt. 25(1): 61-65. Jan. 1961. WR 102: 59
Migrational homing in adult mourning doves trapped in their nests and migrational homing of nestlings are compared. When the data are corrected to allow for annual mortality and for the presence of banded birds in the untrapped residue of the population, migrational homing rates of about 100% for adult ♂♂ and 60% for adult ♀♀ were obtained. During the 3-year study only 6 of 512 doves banded as nestlings were known to have returned in subsequent years.--From summ.

Locke, Louis N. (Patuxent Wildl. Res. Center, Laurel, Md.) POX IN MOURNING DOVES IN THE UNITED STATES. J. Wildl. Mgmt. 25(2): 211-212. Apr. 1961. WR 102: 59
Summary: Pox infection has occurred in mourning doves in at least 8 states on 12 separate occasions. Unsuccessful attempts were made to transmit both fowl pox (chicken isolate) and passerine pox (cowbird isolate) to mourning doves.

Rosen, Mert. (Calif. Dept. Fish & Game, Sacramento.) TRICHOMONIASIS OR CANKER IN DOVES. Calif. Dept. Fish & Game, Game Mgmt. Leaf1. no. 2. 12 unnumbered pages, illus. [1960.] WR 102: 59
A popular account of this malady in doves. Artificial feeding in urban areas is discouraged since it tends to crowd the doves and serves to disseminate the disease, thereby threatening wild populations of dove that pass through on migration.

Saunders, Dorothy Chapman. (Cape Haze Marine Lab., Placida, Fla.) MICROFILARIAE AND OTHER BLOOD PARASITES IN MEXICAN WILD DOVES AND PIGEONS. J. Parasitol. 45(1): 69-75, 9 figs. Feb. 1959. WR 102: 59

Stabler, Robert M. (Colo. Coll., Colorado Springs.) A PARASITOLOGICAL SURVEY OF FIFTY-ONE EASTERN WHITE-WINGED DOVES. J. Parasitol. 47(2): 309-311. Apr. 1961. WR 102: 59
All were positive for Trichomonas gallinae. Haemoproteus columbae was in all of the birds and H. sacharovi was in 26.

Strandtmann, R. W. (Texas Technol. Coll., Lubbock.) NEONYSSUS TRIANGULUS N. SP., NASAL MITE (ACARINA: MESOSTIGMATA) FROM THE WHITE-WINGED DOVE (AVES: COLUMBIFORMES) AND KEY TO THE SPECIES OF THE GENUS NEONYSSUS. J. Parasitol. 47(2): 323-328, 12 figs. Apr. 1961. WR 102: 59

WATERFOWL

Beverley-Burton, Mary (= Mrs. D. F. Mettrick). (Univ. Coll. Rhodesia & Nyasaland, Salisbury, S. Rhodesia.) A NEW NOTOTYLID TREMATODE, UNISERIALIS GIPPYENSIS GEN. ET SP. NOV., FROM THE MALLARD, ANAS PLATYRHYNCHA L. J. Parasitol. 44(4): 412-415, 4 figs. on 1 pl. Aug. 1958. WR 102: 59

Errington, Paul L. (Iowa State Univ., Ames.) AN AMERICAN VISITOR'S IMPRESSIONS OF SCANDINAVIAN WATERFOWL PROBLEMS. J. Wildl. Mgmt. 25(2): 109-130, 10 figs. Apr. 1961. WR 102: 60

Deals with: Impacts of engineering on waterfowl habitats, extent and quality of waterfowl habitat, mortality factors (including predation), and human exploitation of Scandinavian waterfowl.

Geis, Aelred D., and Earl L. Atwood. (Patuxent Wildl. Res. Center, Laurel, Md.) PROPORTION OF RECOVERED WATERFOWL BANDS REPORTED. J. Wildl. Mgmt. 25(2): 154-159. Apr. 1961. WR 102: 60

Summary: Data from the annual mail survey of waterfowl hunters in the United States were used to estimate the total numbers of banded waterfowl that were shot. These estimates were compared with Banding Office records to estimate the proportion of recovered bands that was reported. On the average, about two banded birds were recovered for each one reported. The proportion reported was higher for some areas and for some species than for others. The proportion reported was higher when more of the reports came through employees of conservation agencies.

Geis, Aelred D., and Samuel M. Carney. (Patuxent Wildl. Res. Center, Laurel, Md.) RESULTS OF DUCK-WING COLLECTION IN THE MISSISSIPPI FLYWAY, 1959-60. US F&WS, Spec. Sci. Rept.--Wildl. no. 54. viii + 120 p., 6 figs. Apr. 1961. WR 102: 60

Results of the wing-collection pilot study indicate that this technique is a promising one for evaluating factors affecting waterfowl production, understanding the status of waterfowl populations, and measuring the effect of regulations on the kill. More than 10,000 wings were received from the sample of 8,000 Mississippi Flyway hunters contacted. The lowest age ratios were found in the kill of redheads, mallards, canvasbacks, and pintails. Marked regional and chronological differences were observed in the age, sex, and species composition of the kill.--From abstr.

Hochbaum, H. Albert. TRAVELS AND TRADITIONS OF WATERFOWL. Charles T. Branford Co., Newton, Mass. x + 301 p., illus. 1960. $6.00. [From Biol. Abstr. 36(4), 1961.] WR 102: 60

This book was originally published in 1955 by the University of Minnesota Press. Part I is an analysis of the movements of waterfowl on their home range on the Delta Marsh in southern Manitoba. Migration is discussed in Part II as the author studied it directly in the field, mostly in Manitoba, and as he has followed it in the literature for other regions. Throughout the book "waterfowl" refers to North American ducks, geese, and swans of the Family Anatidae.--A. J. Sprow.

I.C.I. Game Services. FLIGHT PONDS FOR DUCK WITH SOME NOTES ON SNIPE. I.C.I. Game Res. Sta. (Fordingbridge, Hampshire, England) Advisory Booklet no. 23. 21 p., illus. 3rd rev. ed. 1960. WR 102: 60

Essentially the same as the 1956 revision but with additional sections entitled: Pinioning duck and Sanctuary pools as restocking centres.

Mangold, Robert E. COMPREHENSIVE REPORT ON WATERFOWL HUNTING ON THE BRIGANTINE REFUGE. N. J. Outdoors 11(9): 3-9, illus. Mar. 1961. WR 102: 60

The 1960 bag check indicated that during the waterfowl season 693 hunters spent 4,424 man-hours to bag 1,450 birds for an average of 2.1 birds/hunter and 3.1 hours per bird. During 1959, a total of 983 birds was bagged by 467 hunters with an average of 2.1 birds/hunter. Of 129 black ducks checked, 31 were adult ♂♂, 28 adult ♀♀, 23 juvenile ♂♂, and 47 juvenile ♀♀. The composition of the bag check was 987 brant, 457 ducks, and 6 geese.

Mann, Grady E., and E. Robert Panzner. (US F&WS, Fergus Falls, Minn.) PRAIRIE POTHOLES / A VITAL WATERFOWL RESOURCE. Am. Forests 66(11): 24-27, 49-50, illus. Nov. 1960. WR 102: 60

A popular review which reiterates that "much of the sport of wild-fowling nation-wide is dependent on the supply from the prairie region."

Poole, Daniel A. (Wildl. Mgmt. Inst., Washington, D. C.) TULE LAKE AND LOWER KLAMATH WILDLIFE REFUGES ARE CROSSROADS FOR WESTERN WATERFOWL. Natl. Parks Magazine 35(162): 4-7, illus. Mar. 1961. WR 102: 61

These "refuges are the pivots, the balancing points, that help equalize waterfowl production on the breeding grounds in the north with the limited wintering marshes in the south of the Pacific flyway."

Proctor, Vernon W. (Texas Technol. Coll., Lubbock.) DISPERSAL OF FRESH-WATER ALGAE BY MIGRATORY WATER BIRDS. Science 130(3376): 623-624. 11 Sept. 1959. WR 102: 61

Abstract: Many migratory water birds killed in Texas and Oklahoma contained viable fresh-water algae in the lower digestive tracts. Such birds are thought to play a significant role in the long-range dispersal of certain algae, particularly those species easily killed by desiccation.

Ramsay, A. Ogden. (McDonogh School, McDonogh, Md.) BEHAVIOUR OF SOME HYBRIDS IN THE MALLARD GROUP. Animal Behaviour 9(1&2): 104-105, 1 fig. Jan.-Apr. 1961. WR 102: 61

Ten types of display in the mallard are figured.

Seaton, Fred A., Chairman. (USDI, Washington, D. C.) REPORT OF THE MIGRATORY BIRD CONSERVATION COMMISSION FOR THE FISCAL YEAR ENDED JUNE 30, 1960. Migratory Bird Conserv. Comm., Washington, D. C. 10 p., 9 maps + 4 p. table. Dec. 1960. WR 102: 61

During the year approval was given for the leasing of 7,754 acres and the purchase of 16,537 acres for refuges in Ark., Ill., N. Y., N. Dak., Oreg., Pa., Utah, and Wash. Reapproval was given to acquisition of unacquired lands in 3 previously approved refuges, and acquisition of 1,626 acres as additions to 5 existing refuges.

Tarras-Wahlberg, Nils. KNÖLSVANEN (CYGNUS OLOR) I NÄRKE 1959. [THE MUTE SWAN IN NÄRKE, CENTRAL SWEDEN, IN 1959.] Vår Fågelvärld 19(3): 227-235, illus., map. 1960. [From Biol. Abstr. 36(6), 1961.] WR 102: 61

[In Swedish] with English summary. In all, 88 breeding pairs were recorded with certainty in Närke, and in addition 14 pairs which apparently had no nests. Also about 50 non-breeding summering swans were counted. The distribution is mapped. The population of mute swans has increased considerably during the last 4 decades, only 15 pairs having been reported in 1921. It is obvious that new suitable habitats are continuously under formation owing to the increased eutrophy in several lakes caused by the increased supply of sewage.--From auth. summ.

Uhlig, Hans G. (SCS, Fergus Falls, Minn.) SURVEY OF LEASED WATERFOWL HUNTING RIGHTS IN MINNESOTA. J. Wildl. Mgmt. 25(2): 204. Apr. 1961. WR 102: 61

In a 1959 survey, 49 leases involving 3,919 acres were checked. The total income from this source was $20,050, or an average of $409 per lease ($5.10 per acre). "At present the highest priced leases ($13 per acre) give the farmer approximately the same net profit as an acre of cropland."

Witkowski, J. MIXED CLUTCHES OF DIVING DUCKS (NYROCA). Przeglad Zool. (Wrocław) 2(1): 45-48, 3 figs. 1958. [From Polish Bibliog. Selected Ecol. Problems for 1958, Inst. Ecol., Univ. Warsaw.] WR 102: 61

In Polish with English summary. Note recording the fact of mixed clutches taking place in one pond with unusually dense water bird population.

Zajac, R. RESEARCH ON THE MUTE SWAN (CYGNUS OLOR GMEL.) IN THE SZCZECIN PROVINCE. Przyroda Polski Zachodniej (Poznań) 1(1-2): 139-146, 6 figs. 1957. [From Polish Bibliog. Selected Ecol. Problems for 1948, Inst. Ecol., Univ. Warsaw.] WR 102: 61

In Polish with English summary. The nesting station of 60 pairs of mute swans is described. A tendency to quantitative increase is noted.

CRANES, RAILS, SHOREBIRDS

Bernis, F. ABOUT WINTERING AND MIGRATION OF THE COMMON CRANE (GRUS GRUS) IN SPAIN. Proc. Intern. Ornithol. Congr. 12: 110-117, maps. 1958 [1960]. [From Biol. Abstr. 36(9), 1961.] WR 102: 62

Beverley-Burton, Mary (= Mrs. D. F. Mettrick). Univ. Coll. Rhodesia & Nyasaland, Salisbury, S. Rhodesia.) A NEW DILEPIDID CESTODE, MASHONALEPIS DAFYDDI, N. G., N. SP., FROM THE GRAY HERON, ARDEA CINEREA L. J. Parasitol. 46(4): 487-490, 7 figs. Aug. 1960. WR 102: 62

Edwards, Robert L. (US F&WS, Woods Hole, Mass.) STUDIES OF THE PHILOPTERIDAE (MALLOPHAGA) FROM BIRDS OF THE ORDER PROCELLARIFORMES. I. THE GENUS HALIPEURUS THOMPSON. J. Parasitol. 47(1): 125-157. Feb. 1961. WR 102: 62

Summary: The genus Halipeurus, typically parasitizing the shearwaters and petrels, is revised. Twelve new species and two new subspecies are described. All previously described species are redescribed and refigured and, where necessary, lectotypes designated. Host-parasite relationships are discussed.

Russell, H. T., Jr. (Univ. Calif., Santa Barbara.) TREMATODES FROM SHOREBIRDS COLLECTED AT MORRO BAY, CALIFORNIA. J. Parasitol. 46(5--sect. 2): 15. Oct. 1960. WR 102: 62

Title and abstract only. Trematodes assignable to 10 families and 26 spp. were recovered from 110 shorebirds of 8 spp.

Walkinshaw, Lawrence H. (Battle Creek, Mich.) THE PROBLEM OF THE LESSER SANDHILL CRANE. Blue Jay 19(1): 8-14, 5 figs. Mar. 1961. WR 102: 62

A review paper. Cranes have increased since 1930, marsh habitat decreased, and crop damage on areas adjacent to refuges has increased. Compensation to farmers is recommended.

OTHER BIRDS

Anderson, Anders H., and Anne Anderson. (3221 Kleindale Rd., Tucson, Ariz.) LIFE HISTORY OF THE CACTUS WREN. PART IV: DEVELOPMENT OF NESTLINGS. Condor 63(1): 87-94, 3 figs. Jan. 1961. WR 102: 62

Describes the nestling growth and development from the time of hatching to the time of fledging.

Benton, Allen H. (State Univ. N. Y., Albany.) SOUTHERN WARBLERS IN CENTRAL NEW YORK: A HISTORICAL REVIEW. Kingbird 10(4): 137-141, 2 figs. Dec. 1960. WR 102: 62

de Carvalho, Cory T. (Museum Paraense Emilio Goldi, Belém, Pará, Brazil.) NOTAS BIOLÓGICAS SÔBRE CHLORESTES NOTATUS (REICH.) (AVES, TROCHILIDAE). [BIOLOGICAL NOTES ON C. NOTATUS.] Bol. Museum Paraense Emilio Goeldi, Zool. 18. p. 1-17, illus. 1958 [1960.] [From Biol. Abstr. 36(2), 1961.] WR 102: 62

[In Portuguese] with English summ. This bird is a common resident of the Museu Goeldi park at Belém, Pará. Observations were made on its preferred habitat, time of activity, territorial behavior, feeding habits, songs and calls, nidification, and care of the young. A comparison is made with Glaucis hirsuta, another resident hummingbird in the park.--From auth. summ.

Friedmann, Herbert. (U. S. Natl. Museum, Washington, D. C.) THE PARASITIC WEAVERBIRDS. Smithsonian Inst., USNM Bull. 223. viii + 196 p., 16 figs. 1960. Available from Supt. Documents, GPO, Washington 25, D. C. at $1.00 WR 102: 62

The evolution of brood parasitism is presented in the first part of this monograph on parasitic weaverbirds. The second part is concerned with species accounts of nine parasitic weaverbirds.

Stonehouse, Bernard. THE KING PENGUIN, APTENODYTES PATAGONICA, OF SOUTH GEORGIA. I. BREEDING, BEHAVIOUR AND DEVELOPMENT. Falklands Islands Dependencies Surv., Sci. Rept. no. 23. 81 p., illus. 1960. [From Polar Record 10(67), 1961.] WR 102: 62

OTHER BIRDS--Continued

Ulfstrand, Staffan. IAKTTAGELSER AV VISSA SÄLLSYNTA HACKSPETTAR AR 1959. [OBSERVATIONS ON SOME RARE WOODPECKERS IN 1959.] Vår Fågelvärld 19(3): 223-226. 1960. [From Biol. Abstr. 36(6), 1961.] WR 102: 63
[In Swedish] with English summary. Status of Dendrocopus leucotos, D. medius, Picus canus, and Picoides tridactylus.

Williams, G. R. (Lincoln Coll., Christchurch, New Zealand.) THE TAKAHE (NOTORNIS MANTELLI OWEN, 1848): A GENERAL SURVEY. Trans. Roy. Soc. N. Z. 88 (2): 235-258, 9 figs., 1 col. pl. Aug. 1960. Reprinted as Dept. Internal Affairs (N. Z.), Wildl. Branch Publ. no. 57. WR 102: 63
An account is given of the history, classification, description, breeding biology, and population ecology of this large flightless rail of N. Z. It was found that "territorial behaviour limits population density but not, apparently, through the food value of the territory. The size of the territory seems to be governed mainly by...'acquisitiveness' rather than being closely correlated with any obvious requisite in the environment. This view of territorial behaviour is briefly discussed."--From auth. abstr.

REPTILES AND AMPHIBIANS

Banta, Benjamin H. (Calif. Acad. Sci., San Francisco 18.) NOTES ON THE FEEDING OF THE WESTERN COLLARED LIZARD, CROTAPHYTUS COLLARIS BAILEYI STEJNEGER. Wasmann J. Biol. 18(2): 309-311. Fall 1960. WR 102: 63
Stomachs of two specimens contained Lycium andersonii berries.

Bellis, Edward D. (Pa. State Univ., University Park.) GROWTH OF THE WOOD FROG, RANA SYLVATICA. Copeia 1961(1): 74-77, 1 fig. 17 Mar. 1961. WR 102: 63

Bragg, Arthur N., and Otis M. King. (Univ. Okla., Norman.) AGGREGATIONAL AND ASSOCIATED BEHAVIOR IN TADPOLES OF THE PLAINS SPADEFOOT. Wasmann J. Biol. 18(2): 273-289, 9 figs. Fall 1960. WR 102: 63

Carr, Archie, and Harold Hirth. (Univ. Fla., Gainesville.) SOCIAL FACILITATION IN GREEN TURTLE SIBLINGS. Animal Behaviour 9(1&2): 68-70, 1 fig. Jan.-Apr. 1961. WR 102: 63
Summary: 1. Tests made at the green turtle nesting ground at Tortuguero, Costa Rica, show that turtles hatching singly have reduced prospects of emerging from the nest, and even less chance of reaching the sea. 2. Observations through glass nest sides, and of young going from the nest to the sea, show that group facilitation, probably involving both mechanical and psychological factors, occurs. 3. Data from tests at Ascension Island, extending Hendrickson's results (1958) in the China Sea, indicate that metabolic heating raises the temperature in nests of developing green turtle eggs and suggests that this may constitute thermal co-operation affecting the fitness of the sets of eggs and young as evolutionary units.

Frandsen, John C., and Albert W. Grundmann. (Univ. Utah, Salt Lake City.) THE PARASITES OF SOME AMPHIBIANS OF UTAH. J. Parasitol. 46(6): 678. Dec. 1960. WR 102: 63
A host list of 22 spp. of parasites found in summer, 1955.

Grant, Chapman. DIFFERENTIATION OF THE SOUTHWESTERN TORTOISES (GENUS GOPHERUS), WITH NOTES ON THEIR HABITS. Trans. San Diego Soc. Nat. Hist. 12 (27): 441-448, 4 figs. 15 Nov. 1960. WR 102: 63

Harris, Joseph P., Jr. (Southern Methodist Univ., Dallas 22, Texas.) THE NATURAL HISTORY OF NECTURUS: I. HABITATS AND HABITS. Field & Lab. 27(1): 11-20, 2 figs. Jan. 1959. WR 102: 63

Harris, Joseph P., Jr. (Southern Methodist Univ., Dallas 22, Texas.) THE NATURAL HISTORY OF NECTURUS: II. Field & Lab. 27(2): 71-77, 2 figs. Apr. 1959. WR 102: 63

Harris, Joseph P., Jr. (Southern Methodist Univ., Dallas 22, Texas.) THE NATURAL HISTORY OF NECTURUS: III. FOOD AND FEEDING. Field & Lab. 27(3): 105-111. July 1959. WR 102: 64

Harris, Joseph P., Jr. (Southern Methodist Univ., Dallas 22, Texas.) THE NATURAL HISTORY OF NECTURUS, IV. REPRODUCTION. J. Graduate Res. Center 29 (1): 69-81. Jan. 1961. WR 102: 64

Joly, Jean. DONNÉES SUR L'ECOLOGIE DE LA SALAMANDRE TACHETÉE: SALAMANDRA SALAMANDRA TAENIATA DÜRINGEN (1897). [CONTRIBUTION TO THE ECOLOGY OF THE SPOTTED SALAMANDER: S. S. TAENIATA.] Bull. Soc. Zool. France 84(2/3): 208-215. 1959. [From Biol. Abstr. 36(7), 1961.] WR 102: 64
[In French.]

Kirtisinghe, P. (Univ. Ceylon, Colombo.) THE AMPHIBIA OF CEYLON. Publ. by the author, available from Wheldon & Wesley, Ltd., Codicote, Herts, England. xiv + 112 p., illus. 1957. Price $3.00. [From Biol. Abstr. 36(3), 1961.] WR 102: 64
With key to all known species and much information concerning life habits, especially larval forms.--K. K. Adler.

Logier, E. B. S., and G. C. Toner. (Roy. Ontario Museum, Toronto, Ontario, Canada.) CHECK LIST OF THE AMPHIBIANS AND REPTILES OF CANADA AND ALASKA. Contrib. Roy. Ontario Museum no. 53. [vi] + 92 p., 77 maps. 1961. $3.50. WR 102: 64
A revision of contribution no. 41 [see WR 83: 58]. Text and maps have been revised, typography has been improved, and a permanent binding has been added. This check-list should be of value to herpetologists in the northern tier of states in addition to those of Canada and Alaska.

Mahmoud, Ibrahim Yournis. THE COMPARATIVE ECOLOGY OF THE KINOSTERNID TURTLES OF OKLAHOMA. Ph.D. thesis, Univ. Okla. 252 p. 1960. [From abstr. in Dissertation Abstr. 21(7), 1961.] WR 102: 64
A total of 1,200 field records was obtained for 911 individuals of the 4 spp. of kinosternid turtles known for Okla.: Mississippi mud turtle (Kinosternon subrubrum hippocrepis), yellow mud turtle (K. flavescens flavescens), stinkpot turtle (Sternothaerus odoratus), razor-backed musk turtle (S. carinatus carinatus). Information relative to habitat preference, temperature, diel cycle, seasonal periodicity, feeding habits, movements, growth, reproductive potential, behavior, and population was gathered from 7 marked natural populations, from random collections over the state, and from observations on laboratory populations. Adult ♀♀ outnumbered adult ♂♂ and adults were more numerous than hatchlings throughout the year. Population estimates were: 60.74 per acre for S. odoratus, 92.60 per acre for S. carinatus, 104.67 per acre for K. subrubrum hippocrepis, and 11.37 per acre for K. flavescens.

McAlister, Wayne H. (Univ. Texas, Austin.) THE MECHANICS OF SOUND PRODUCTION IN NORTH AMERICAN BUFO. Copeia 1961(1): 86-95, 6 figs. 17 Mar. 1961. WR 102: 64

Organ, James Albert. STUDIES ON THE LOCAL DISTRIBUTION, LIFE HISTORY, AND POPULATION DYNAMICS OF THE SALAMANDER GENUS DESMOGNATHUS IN VIRGINIA. Ph.D. thesis, Univ. Mich. 114 p. 1960. [From abstr. in Dissertation Abstr. 21(8), 1961.] WR 102: 64
The vertical and horizontal distributions of 5 spp. of Desmognathus in the Balsam Mts. of sw Va. was determined by transects. From the most aquatic to the most terrestrial, the series is: D. quadramaculatus, D. monticola, D. fuscus, D. ochrophaeus carolinensis, and D. wrighti. The 2 most terrestrial species, D. o. carolinensis and D. wrighti move from forest into aquatic sites for winter hibernation. The relationship of terrestrialism to survivorship is demonstrated and discussed at the interspecific and intraspecific levels. The most terrestrial species has the highest survivorship through early maturity whereas the most aquatic species has the lowest survivorship to maturity.

Twitty, Victor C. (Stanford Univ., Stanford, Calif.) MIGRATION AND SPECIATION IN NEWTS. Science 130(3391): 1735-1743, 10 figs. 25 Dec. 1959. WR 102: 65

Waitz, J. Allan. (Univ. Ill., Urbana.) PARASITES OF IDAHO AMPHIBIANS. J. Parasitol. 47(1): 89. Feb. 1961. WR 102: 65

During the summers of 1957 and 1958, one hundred and sixty-seven amphibians representing 14 different spp. were collected for parasitological examination. Eight spp. of trematodes, 3 spp. of nematodes, and 1 sp. of cestode were found.

FISHES

Stansby, M. E., and Rosemary Schairer. INDEX OF FISHERY TECHNOLOGICAL PUBLICATIONS OF THE FISH AND WILDLIFE SERVICE AND THE FORMER BUREAU OF FISHERIES 1918-55. US F&WS, Circ. 96. ii + 237 p. 1961. WR 102: 65

A listing and classification, by subject and by author, of publications printed during 1918 through 1955 that are of interest to persons in the field of fishery technology. Included are lists of publications on fur seals and whales.

INVERTEBRATES

Knipling, E. F. (USDA, Beltsville, Md.) STERILE-MALE METHOD OF POPULATION CONTROL. Science 130(3380): 902-904. 9 Oct. 1959. WR 102: 65

The principle of animal population control through the use of sexually sterile *dd* has been demonstrated for insects. Sexually sterile *dd* that retain their sexual vigor and behavior will exert greater influence in regulating animal populations than can be achieved by destroying or removing the same number of individuals from the population. The maximum regulating effect that can be achieved is in direct proportion to the ratio of sterile to fertile *dd* competing for mates. It is suggested that the sterile-male method may have practical application for undesirable populations of certain wild animals as for insects.--From summ.

Knipling, E. F. (USDA, Beltsville, Md.) THE ERADICATION OF THE SCREW-WORM FLY. Sci. Am. 203(4): 54-61, illus. Oct. 1960. WR 102: 65

"This destructive parasite of livestock [and deer] has been eliminated from the southeastern states by releasing large numbers of male flies that have been sterilized by ionizing radiation."

Meredith, W. G., and F. J. Schwartz. (Mt. St. Mary's Coll., Emmitsburg, Md.) MARYLAND CRAYFISHES. Md. Dept. Res. & Educ. (Solomons), Educ. Ser. no. 46. 32 p., 17 figs. Feb. 1960. WR 102: 65

Includes sections on: classification; anatomy; habitat; food, enemies, and economic importance; life history; distribution and evolution; and the use of the crayfish as a laboratory animal. A glossary is provided as well as a key to the adult crayfishes of Maryland.

Smith, Arthur C. (Alameda State Coll., Hayward, Calif.) WESTERN BUTTERFLIES. Lane Book Co., Menlo Park, Calif. 65 p., illus. Apr. 1961. $2.95. WR 102: 65

The common butterflies of the West are uniquely presented by habitat groups. An index table listing the included species by common and scientific name and also giving the range, flight season, and larval food plant of each species is a desirable feature for concisely presenting that information. The table is unhandy, however, because the listing is by family groups with which the reader would not likely be familiar, and within the family groups they are not listed alphabetically for easy reference. Although the book is intended for children rather than students or professionals, greater care should have been used in text and illustrations for technical accuracy.--R. T. Mitchell.

AUTHOR INDEX

	Page
Abbott, Herschel G.	15,31
Ableiter, J. Kenneth	2
Adams, Harriet Dyer	3
Ahlgren, C. E.	3
Ahlgren, I. F.	3
Al'benskij, A. V.	20
Alberta	16
Alexander, Maurice M.	19
Alexander, Taylor R.	3
Alfred, S. D.	2
Alkon, Philip U.	42
Allen, Rex W.	40
Allred, Dorald M.	36
Allsopp, W. H. L.	44
Altmann, Margaret	40
Ames, Norma	21
Anan'un, V. V.	23
Anastos, George	27
Anderson, Anders H.	62
Anderson, Anne	62
Anderson, Carl F.	42
Andreeva, D. A.	33
Andresen, John W.	20
Andrews, Ted F.	7
Arizona	16
Ash, J. S.	57
Ash, Lawrence Robert	25,37
Ashcraft, Gordon C., Jr.	43
Atwood, Earl L.	60
Averin, U. V.	7
Babero, Bert B.	10,36,37,38,45
Backus, Richard H.	44
Bacon, Marion	23
Bagenal, T. B.	49
Bailey, James A.	19
Baird, D. E.	49
Ballarini, G.	11
Balser, Donald S.	13
Banta, Benjamin H.	63
Barber, Harold L.	14,20
Bárdoš, V.	23
Bartel, Karl E.	51
Baskett, Thomas S.	18
Basova, N. N.	53
Bassini, Ettore	15,53
Batcheler, C. L.	40
Baumhoff, Martin A.	41
Beard, Raimon L.	15
Bednarek, A.	19
Beer, James R.	23
Beklemishev, K. V.	44
Bel'kovich, V. M.	44
Bellis, Edward D.	63
Bencze, L.	20
Bennett, G. F.	53
Benton, Allen H.	62
Bergerud, Arthur T.	40
Bernard, J.	31
Bernis, F.	62
Bertoni, L.	11
Beverley-Burton, Mary	59,62
Bider, J. Roger	27
Biester, H. E.	25
Birkenholz, Dale E.	38
Bischoff, Arthur	9
Biswell, H. H.	18
Black, Hugh C.	37
Blank, T. H.	57
Blašković, Dionýz	10
Blondeau, R.	21
Bocheński, Z.	49
Booth, Ernest S.	35
Borodin, V. P.	23
Bossenmaier, Eugene F.	9
Box, Thadis W.	3
Bragg, Arthur N.	63
Branch of Federal Aid, F&WS	16
Breukelman, John	7
Brohn, Allen	18
Brooks, Derl Len	53
Brooks, William S.	49
Brown, Ellsworth Reade	43
Brown, Hilda J.	3
Brown, L. N.	27
Brown, Woodward W.	50
Bruce, J. I.	23
Bruns, Herbert	51,52
Bubenik, A. B.	40
Buchanan, Hayle	3
Buechner, Helmut K.	41
Bullock, W. L.	36
Burckhardt, Dieter	41
Burnett, Howard S.	24,25
Buss, Irven O.	41
Butterworth, B. B.	31
Byrd, Elon E.	40
Cabasso, V. J.	10
Caillouet, Charles W., Jr.	15
Calaby, J. H.	28
Canaris, Albert G.	12,31
Capelle, Kenneth J.	43
Carney, Samuel M.	60
Carr, Archie	63
Carson, James D.	12
Cayford, J. H.	31
Ceccarelli, Aldo	28
Cervi, O.	15
Chambers, Glenn D.	59
Chard, J. S. R.	42
Cheatum, E. L.	10
Chernukha, Iu. G.	23,24
Chew, Robert M.	7,31
Chudoba, St.	22
Chunikhin, V. P.	23
Chute, Robert M.	36
Clark, Gordon Marston	38,53
Clark, Lawrence G.	39
Clarke, Robert F.	7
Cockrum, E. Lendell	21
Colwell, Robert N.	12
Commissaris, Larry R.	26
Conaway, Clinton H.	30
Cook, C. Wayne	3
Cook, Edwin F.	23
Cooper, Arthur W.	3
Cooper, Charles F.	2

Page

Cooperrider, Tom S. 5
Cornwallis, R. K. 46
Coulson, J. C. 52
Coupland, Robert T. 5
Cowan, K. M. 42
Cowan, R. L. 43
Crawford, C. 31
Crawford, H. S. 4
Cronemiller, F. P. 19
Crowcroft, Peter 35
Csapody, I. 20
Csesznák, B. 15
Cullen, J. M. 46
Curio, Eberhard 46
Curry-Lindahl, Kai 8
Curtis, J. T. 43
Czapski, Z. 31
Dabrowski, T. 25
Darrow, Robert A. 3
David, Robert Austin 5
Davis, Charles A. 28
Davis, R. A. 36
Dealy, J. Edward 4
Dean, D. J. 10
De Avila-Pires, F. A. 41
de Carvalho, Cory T. 62
Dennis, La Rea J. 6
de Ong, E. R. 15
Deramond, M. 50
Dobrowolski, K. 50
Dodge, Wendell E. 15
Dorney, Robert S. 36,57
Dorofeev, S. V. 44
Douglas, G. W. 28
Drake, Charles H. 23
Drummond, D. C. 35
Dubinin, N. P. 49
Dubois, Georges 26
Dudzinski, M. L. 28
Dugan, R. Franklin 18
Dunn, Angus M. 41
Durlakowa, J. 25
Eads, Richard B. 31
Eckert, Richard E., Jr. 19
Edwards, Malcolm G. 57
Edwards, Robert L. 62
Elizalde, R. M. 2
Elliott, R. T. 42
Ellis, Charles J. 53
Ellison, Lincoln 18
Errington, Paul L. 60
Erz, Wolfgang 50
Fallis, A. M. 53
Farmer, John N. 53
Farrand, Richard L. 31
Fediushin, A. V. 57
Fedorov, V. N. 35
Fejer, Andrew A. 44
Fenyuk, B. K. 24
Ferry, C. 50
Fincher, F. 22
Fisher, H. D. 45
Fisher, Kenneth C. 36
Fisler, George F. 31
Ford, Hedwig Geiger 53

Page

Forester, J. E. 6
Foster, J. Bristol 32
Frandsen, John C. 32,33,63
Frankel, Arthur 59
Frederick, Ralph H. 4
Freeman, Reino S. 32
Friedmann, Herbert 62
Frydendall, Merrill 32
Fujimoto, Keisuke 32
Funk, Gloria 25
Furmaga, St. 26
Furrer, E. 4
Galton, Mildred M. 24
Gałuszka, J. 24
Garrison, George A. 6
Gashwiler, Jay S. 39
Geis, Aelred D. 60
Genelly, Richard E. 57
Getz, Lowell L. 32
Gibbs, H. C. 41
Gilkey, Helen M. 6
Giller, Donald R. 48
Gladkina, T. S. 32
Golley, Frank B. 32
Goodacre, M. J. 47
Gooding, C. D. 28
Goodwin, Richard H. 9
Gordy, Betty Anne 58
Grant, Chapman 63
Griffiths, M. E. 28
Griffo, James V., Jr. 33,38
Grulich, I. 33
Grundmann, Albert W. 32,33,63
Grzimek, Bernhard 41
Gudmundsson, Finnur 57
Gullion, Ardelle M. 55
Gupta, Ramesh 58
Gurwell, Bill 45
Gusev, V. M. 53
Gysel, Leslie W. 19
Habeck, J. R. 43
Haberkorn, Axel 52
Haig, R. A. 31
Hailman, Jack P. 47
Hamilton, Rex 43
Hamilton, W. J. 41
Hansen, M. F. 29
Hanson, William R. 56
Hanuš, Karel 26
Hanzak, Jan 47
Harkema, Reinard 38
Harris, Joseph P., Jr. 63,64
Harris, Stanley W. 59
Harrison, C. J. O. 52
Harrison, R. J. 41,44
Haugen, Arnold O. 28
Hay, John 8
Hayes, Doris W. 6
Hayes, Frank A. 38
Heizer, Robert F. 41
Herman, Carlton M. 38
Herre, Wolf 42
Hewitt, Oliver H. 37
Heydemann, Berndt 26
Hillemann, Howard H. 36

	Page
Hindwood, K. A.	47
Hirth, Harold	63
Hochbaum, H. Albert	60
Hodson, N. L.	9
Hoffmann, Robert S.	58
Hollister, Charles J.	39
Hoover, Kenneth B.	4
Horwitz, Leah G.	12
Howell, J. Franklin	10
Hubbard, C. Andresen	33
Hubbard, E. D.	25
Hudec, Karel	51
Hugghins, Ernest J.	38
Hughes, W. J.	21
Huminski, St.	22
Hunt, Eldridge	9
Hunter, Wanda Sanborn	55
Hurd, E. S.	19
Hyland, Kerwin E.	53
I.C.I. Game Services	55,56,60
Irving, Laurence	47
Ivens, Virginia	34
Ivey, William D.	56
Jackson, Harley H. T.	22
Jenson, A. G.	36
Jérome, R.	20
Johnston, Marshall C.	6
Jokinen, P. W.	42
Joly, Jean	64
Jones, Dale A.	43
Jones, Fred B.	6
Jordan, Helen E.	38,40
Joszt, L.	54
Judd, William W.	36
Julander, Odell	34,43
Jury, W. M.	2
Kadlec, John A.	18
Karaseva, E. V.	23
Karmańska, K.	25
Karry, Ted	13
Kauker, E.	24
Kebbe, Chester E.	16
Kellogg, W. N.	44
Kenyon, Karl W.	44
Keve, A.	51
Key, Margaret	13
Khuzin, R. Sh.	44
Kiełczewski, B.	33
Kindleberger, Betty	9
King, John M.	37
King, Otis M.	63
Kingston, Newton	58
Kinney, Alva R.	13
Kinsinger, Floyd E.	19
Kirikov, S.	51
Kiris, I. B.	39
Kirtisinghe, P.	64
Klawitter, Ralph A.	4,19
Klewer, H. L.	40
Knipling, E. F.	65
Koblet, W.	52
Kocsárdy, K.	20
Konarska, D.	25
Koranda, John James	4
Korczyńska, A.	25
Koroleva, A. P.	23
Korol'kova, G. E.	52
Korotkevich, Ye. S.	50
Košlak, A.	25
Kozicky, Edward L.	2
Kozlovskij, A. A.	42
Kresse, Joseph I.	39
Krotov, A. I.	10
Kruidenier, F. J.	33
Krylov, G. V.	20
Kulicke, H.	33
Kuroda, N. H.	47
Kuusela, Kullervo	5
Lange, Kenneth I.	40
Larance, Fred C.	2
Larson, Joseph S.	13
Lavrova, M. Y.	33
Laws, R. M.	45
Layne, James N.	33,38
Lazuga, K.	25
Leaf, Albert L.	21
Lee, H. F.	25
Lee, J. Warren	36
LeGrande, W. P.	19
Leiby, Paul D.	24
Leikina, E. S.	24
Leroy, Pierre	47
Leski, R.	29
Levine, Norman D.	34
Linde, A. F.	13
Lippoczy, B.	5
Little, M. D.	25
Llewellyn, L. M.	23
Locke, Louis N.	54,59
Logginov, B. I.	20
Logier, E. B. S.	64
Long, T. A.	43
Lord, Rexford D., Jr.	29,39
Lotti, Thomas	19
Lund, H. M. K.	16
Lust, L. V.	33
Lyon, Leonard Jack	57
Lyons, E. T.	29
MacLellan, C. R.	52
MacNamara, L. G.	15
MacPherson, Lachlan W.	25
Maguire, H. F.	14
Mahmoud, Ibrahim Yournis	64
Malek, E. A.	25
Mandelli, G.	39
Mangold, Robert E.	60
Mann, Grady E.	60
Manter, H. W.	54
Marckworth, Gordon D.	2
Marsh, Rex E.	34
Marshak, Robert R.	39
Marston, Richard B.	34
Martin, Edwin Perry	22
Martinson, R. K.	29
Maryland	17
Mason, Edwin A.	21
Massachusetts	17
McAlister, Wayne H.	64
McCormick, Jack	20
McDaniels, James C.	47

Page

..... 23
..... 52
..... 50
..... 25
..... 2
..... 42
..... 39
..... 10
..... 33
..... 20
..... 33
..... 47
..... 5
..... 40
..... 2
..... 13
..... 33
..... 45
.. 33,38
..... 25
..... 21
..... 25
..... 36
..... 19
..... 24
..... 24
..... 47
..... 29
..... 34
..... 13
..... 5
..... 25
..... 23
... 54,59
..... 20
..... 64
..... 43
... 29,39
..... 19
..... 16
..... 33
..... 57
..... 29
..... 52
..... 15
..... 25
..... 14
..... 64
..... 25
..... 39
..... 60
..... 60
..... 54
..... 2
..... 34
..... 39
..... 34
..... 22
..... 29
..... 17
..... 21
..... 17
..... 64
..... 20
..... 47

Page

McIntosh, D. L. 28
McKean, John L. 51
McKeever, Sturgis 59
McKinley, Daniel 58
McLean, Donald M. 25
McNally, J. 45
McTaggert, H. S. 38
Mehl, S. 34
Mehra, K. N. 33
Menzel, Karl E. 56
Meredith, W. G. 65
Mezhzherin, V. A. 26
Michigan 2
Miles, Virgil I. 13
Miller, Grover C. 38
Miller, Norman G. 23
Miller, Ross J. 56
Mitchell, James L. 39
Mohlhenrich, John S. 34
Molnar, Gy. 34
Montgomery, G. G. 13
Morejohn, G. Victor 57
Morris, Owen W. 39
Morse, Marius A. 13
Morse, William B. 39
Moss, E. H. 6
Moulthrop, Irwin M. 58
Moulton, J. E. 37
Muir, Ted J. 26
Muirhead, Desmond 6
Myasnikov, Yu. A. 30
Mykytowycz, R. 28
Neal, Bobby J. 38
Nelson, Maynard M. 57
New Hampshire 17
New Jersey 17
N. Mex. Dept. Game & Fish 7
Nishida, H. 42
Northern Ireland Min. Agr. 30
Nova Scotia 17
Obrazcov, B. V. 52
Olsen, O. W. 37
Oppenheimer, Gerald J. 45
Oregon 17
Organ, James Albert 64
Padgett, Carol Ann 56
Palley, Marshall N. 12
Pande, B. P. 54
Panzner, E. Robert 60
Parker, Dale D. 10
Parker, R. L. 10
Parnas, J. 25
Paroszkiewicz, M. 25
Parrinder, E. R. 51
Patrick, N. D. 37
Pavlov, M. P. 39
Pearson, Oliver P. 34
Pearson, Paul G. 22
Pedersen, Alwin 45
Pemberton, R. T. 54
Pengelley, Eric T. 36
Peterson, Randolph L. 32
Petrides, George A. 9
Pickvance, T. J. 22,42
Pielowski, Z. 34,50

Page

Pieresca, G. 11
Pinowski, J. 50
Pistey, Warren R. 13,14
Plesse, Lloyd F. 34
Polder, Emmett 26
Poliakov, I. Is. 32
Poole, Daniel A. 61
Popov, L. A. 45
Priaulx, A. W. 37
Proctor, Vernon W. 61
Prokhorova, E. V. 33
Provost, Maurice W. 18
Przyborowski, T. 35
Pucek, Z. 35
Rabor, D. S. 8
Rai, P. 54
Rakhilin, V. K. 11
Rall', Yu. 35
Ramsay, A. Ogden 61
Ray, Carleton 8
Resources for the Future 17
Reyes, H. 10
Riabinin, S. 12
Richlen, Ellsworth M. 2
Riopelle, A. J. 38
Riviere, Bill 14
Robinette, W. Leslie 39,43
Robinson, Thane S. 3
Roddy, Roy 18
Rosen, Mert. 59
Rosicky, B. 23
Ross, Anthony 27
Rowell, C. H. Fraser 47
Rowell, Chester M., Jr. 6
Rowley, Ian 30
Royama, Tomoo 8
Rudney, M. M. 53
Russell, H. T., Jr. 62
Russell, Jack H. 11
Rybicka, K. 54
Rydzewski, W. 48
Ryker, T. C. 16
Sadun, E. H. 23
Salt, W. Ray 58
Samson, Kay S. 40
Samsonova, A. P. 23
Sanderson, Glen C. 38,46
Saskatchewan 17
Saunders, Dorothy Chapman 59
Schairer, Rosemary 65
Scheller, S. 25
Schnurrenberger, Paul R. 11
Schütt, C. 10
Schwab, Robert G. 23
Schwartz, F. J. 65
Scott, G. R. 42
Sealander, John A. 35
Seaton, Fred A. 61
Seidel, Don R. 35
Selander, Robert K. 48
Semellini, L. 11
Semenova, L. P. 23
Senger, Clyde M. 43
Sergeant, D. E. 45
Setala, Kalervo 5

Page

Shell, W. F. 38
Shennan, J. P. 30
Shepperson, Jacqueline R. 10,37
Shikhobalova, N. P. 11
Shul'ts (Schulz), R. S. 11
Sicay, T. C. 10
Silver, Helenette 44
Simmons, K. E. L. 48
Skrjabin, K. I. 11
Smith, Arthur C. 65
Smith, Kenneth E. 36
Smith, Robert E., Jr. 21
Smith, Ronald H. 58
Snyder, Donald B. 52
Snyder, Raymond 54
Sokołowski, I. 50
Sołtys, A. 27
Sonenshine, Daniel E. 27
Sonin, M. D. 55
Soper, J. Dewey 22
Spasskaya, L. P. 54
Spasski, A. A. 55
Spitsyn, N. A. 23
Srivastava, J. S. 54
Stabler, Robert M. 59
Stanley, Hugh P. 36
Stansby, M. E. 65
Stempel, M. E. 56
Stevens, Vernon C. 56
Steward, Albert N. 6
Stokes, Allen W. 58
Stonehouse, Bernard 62
Strandtmann, R. W. 53,59
Strawn, Kirk 5
Stubs, Jack 4
Styczyńska, E. 11
Suchkov, Y. G. 53
Sulgostowska, T. 54,55
Sutton, George Miksch 46
Swank, Wendell G. 9
Sweda, M. 29
Swift, J. J. 48
Swift, R. W. 43
Szabolcs, J. 42
Szczerbinski, W. 20
Talbot, Lee Merriam 14
Talbot, M. W. 19
Tarras-Wahlberg, Nils 61
Tener, J. S. 42
Terres, John K. 8
Terrill, Lewis McIver 48
Thomas, H. A. 52
Thomas, Richard M. 38
Tickell, W. L. N. 48
Tiemeier, O. W. 29
Tighe, F. G. 28

Page

Todd, A. C. 36,57
Tollén, Edgar 9
Tomlinson, A. R. 28
Toner, G. C. 64
Toropanova, T. A. 49
Toschi, A. 15
Transvaal 9
Tsareva, M. I. 30
Turcek, F. J. 53
Turkówna, E. 25
Twitty, Victor C. 65
Uhlig, Hans G. 61
Ulfstrand, Staffan 63
Ulmer, Martin J. 55
Vaccari, I. 11
van Overbeek, J. 21
Vesenjak-Zmijanac, J. 23
Vysotskii, B. V. 11
Wagner, Edward D. 24,25
Wagner, Helmuth O. 48
Waitz, J. Allan 65
Walker, Selma J. 25
Walkinshaw, Lawrence H. 51,62
Wasilewski, A. 34,50
Waters, Joseph Hemenway 35
Weatherly, Norman P. 12
Wells, Mary Jane 55
Westerfeld, Walter F. 7
Wherry, Edgar T. 7
White, D. J. B. 5
Wiermann, Rolf 42
Wight, Howard M. 30
Wilke, L. A. 58
Williams, G. R. 63
Willinger, Hermann 30
Wilson, Nixon 55
Wiltowski, J. 37
Wilusz, Z. 49
Witkowski, J. 61
Wolfe, C. W. 43
Wolfson, Albert 49
Woodfield, B. R. G. 28
Worley, D. E. 39
Wright, James F. 13,14
Yorgason, Ira James 35
Young, B. A. 41
Zajac, R. 61
Zalesskiy, Yu. M. 9
Zemskiy, V. A. 45
Zettl, K. 24
Zimmerman, Dale A. 51
Zimmermann, W. J. 25
Zfotorzycka, J. 55
Zwierz, J. 25
Zwierzchowski, J. 25

Manuscript for this issue was completed June 19, 1961

Page

.. 36,57
..... 9
..... 28
..... 64
..... 49
..... 15
..... 9
..... 30
..... 53
..... 25
..... 65
..... 61
..... 63
..... 55
..... 11
..... 21
..... 23
..... 11
... 24,25
..... 48
..... 65
..... 25
... 51,62
... 34,50
..... 35
..... 12
..... 55
..... 7
..... 7
..... 5
..... 42
..... 30
..... 58
..... 63
..... 30
..... 55
..... 37
..... 49
..... 61
..... 43
..... 49
..... 28
..... 39
... 13,14
..... 35
..... 41
..... 61
..... 9
..... 45
..... 24
..... 51
..... 25
..... 55
..... 25
..... 25